

Let's Be Healthy

SECOND REVISED EDITION



YOUR HEALTH AND GROWTH SERIES

Let's Be Healthy

SECOND REVISED EDITION,

W. W. CHARTERS, Ph.D.

Late Director, The Research Service, Stephens College, Columbia, Missouri

DEAN F. SMILEY, M.D.

Secretary, Council on Medical Education, American Medical Association

RUTH M. STRANG, Ph.D.

Professor of Education, Teachers College, Columbia University

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Foreword to the Teacher

Being in a group is very important to boys and girls. Therefore this book suggests ways of behaving in groups; how to make rules; how to play fair and be a good sport—characteristics admired at this age.

Since friends are so important to them the relation of health to popularity is emphasized throughout the book.

Children want to be independent of adult supervision. That is why the material in this book stresses the importance of being "on your own" in forming good health habits and making wise choices in daily living.

Boys and girls of this age are very active; they want to have lots of pep and energy. Healthful behavior is presented not as an end in itself but as a means to more "vim, vigor, and vitality." Personality is in the making—cleanliness and appearance, too, influence one's feeling about himself.

Boys and girls of this grade are often keenly interested in science. They especially like scientific experiments. The experiments described in this book are functional and provide a new interest in and basis for making wise health choices.

The accident rate is high during these years; therefore the book describes many safe adventures—how to ride a bicycle safely, good form in coasting, etc. Safety is presented as "the thing to do" and as a shared responsibility.

Since accidents do happen at this age and since these youngsters are often in spontaneous groups without direct supervision by adults, it is important for them to know what to do and what not to do in case of an accident. Unit Three gives the necessary information and suggestions for demonstrations and practice in first aid.

Making their environment safe and healthful is just as important as building personal health habits; therefore many

suggestions are offered on how to find safe places to play, how to make mealtime pleasant, and how to buy clean, wholesome food.

Now is the time to learn how to meet everyday difficulties in a constructive way—how to handle feelings of anger, worry, insecurity. This is the surest way to good mental health. This topic is covered extensively.

Boys and girls like to talk, and many opportunities are suggested for discussion of health questions important to them.

The questions for discussion and things to do are a functional and important part of each unit. The pupils may carry out some of the suggestions before they read the unit, thus gaining a first-hand basis of experience for the reading. Active participation by pupils and teachers is emphasized throughout the book. The focus is on building healthful attitudes.

Another important feature of this book is its provision for individual differences. The less mature readers, with a little help on the new words, will enjoy the stories and discussions related to their own experiences; they will take part in class discussions of practical health problems; they will find many of the "Things To Do" practical and worth while. The more mature readers will be challenged by the new words and new information. For them this book will be a practical introduction to biology and other aspects of the science of health. Some of these pupils will read further in other more difficult books and bring back their knowledge in an interesting form to the class.

Your Health and Growth Series is based upon needs and interests of children. In the preparation of this series basic curriculum studies were carried on over an extended period of time:

Statistics on accidents and illnesses most prevalent among children of school age were collected and interpreted, and used as a basis for the grade placement of health problems.

Health columns in magazines and newspapers and health bulletins were analyzed to ascertain the health vocabulary needed to continue reading with comprehension popular health articles after graduation and in adult life. A special study was made of the health words with which children in different grades have difficulty. Words that were not known by 80 per cent of the pupils of a given grade were not included unless they were necessary technical terms. These words are either explained in the text or defined in the glossary.

Attention is given to the important problems of conservation of natural and human resources and consumer education.

The main goal of this series is healthful living for each child. The teaching and learning process is: recognition of the health problem, finding out more about it through the text, and applying what has been learned to its solution.

In the present revision improvements have been made along these lines: (1) the books have been made more readable—vocabulary and sentence structure have been simplified; (2) dramatization has been extensively used; (3) the problem-solving approach has been emphasized and much instruction and practice in solving practical health problems are given throughout the series; (4) local school and community health problems have been stressed as the starting point and the end point of each unit of study; (5) more attention has been given to the social and mental health aspects of successful healthful living and on the pupil's taking more responsibility and initiative for his own health and the health of others.

The authors are indebted to many sources for reports and statistics which they examined in their search for scientific and practical materials. Particularly they acknowledge the use of data from the writings of the National Safety Council, the American Red Cross, and the study of accidents of school children made by Miss Jeanie M. Pinckney, Chief of the

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UNIT I

Let's Be Good Sports

Choose a Quiz Master. He will ask several boys and girls to answer each question. You will find some good answers in this book.

1. Where are the places you can play running games with safety for yourself and other people? Good sports choose such places.
2. What kinds of games do good sports like?
3. How do good sports act?
4. What do good sports do when they win? when they lose? when players argue?
5. How do good sports treat a girl or boy who cannot play running games?





A good sport shows good form in games.

Find the Best Places to Play

Ted's team usually played in the school yard after school. Two corners of the yard were set aside for ball games. The teams that got there first could use these fields.

On Saturday two other teams were there ahead of Ted's and the team they were to play against.

"Where shall we play?" one of the boys asked.

"Not the street," said Danny. "There are too many cars going by."

"And our ball might hit people walking along," said Mike.

"The vacant lot isn't a good place either," said Tom. "We might break a window in one of the houses."

"Let's go to the park," said Ted. "It's only six blocks away."

When they got to the park, Danny started to mark out first base on the grass.

"We'd better go on to the baseball field," said Ted. "The small children who are playing around here might get hurt."

So they walked a little farther in the park to a baseball field that was free.

"Here's the right place to play," said Ted. "It's safe for us and for everyone else."

Learn to Play New Games

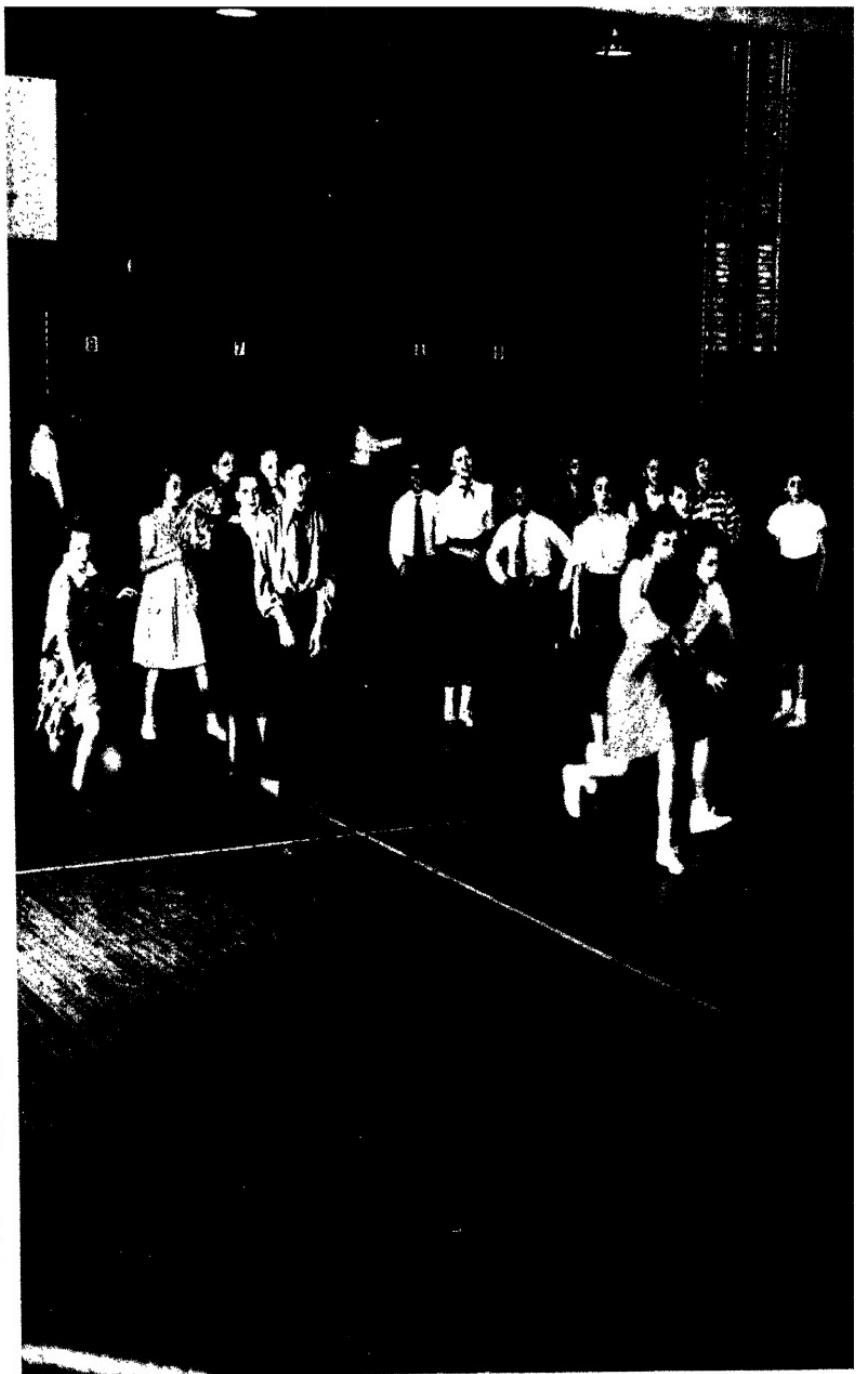
The good sport likes to learn new games and has learned how to play some games well.

Relay races are great fun. There are many kinds of relays. One is the Handkerchief Relay. The teams line up. Half of each team is on one side of the playground; the other half is facing them. The leader of each team holds a clean handkerchief.

At the signal "Go," he runs to the first player on the other half of his team and gives him the handkerchief. As soon as that player gets the handkerchief he runs across, as fast as he can, to give it to the next person in line. The race is over when the leader holds up the handkerchief in the place where he started. The team that gets back first wins.

Another kind of relay is the Over-and-Under Relay. Each team forms a single line. The lines are at least three feet apart. In each line each player stands at arm's length from the one in front of him. The leader of each team holds a basketball.

At the signal "Go," the leader at the head of each line hands the basketball over his head to the player in back of him without turning around.



Organized games require good teamwork.

The next player in line bends over and hands the ball between his legs to the player behind him, who hands it over his head. So the ball goes over and under until it reaches the last player in line. He runs as fast as he can to the head of the line. Then the ball is handed down the line again, over and under. This goes on until the leader is again at the head of his line. The team whose leader gets back to the head of the line first wins.

In the Pass-Roll-Run Relay, the teams line up as they do for the Over-and-Under Relay. The leader stands about 20 feet in front of his line. The other players stand in line with feet apart.

At the signal "Go," the leader throws the basketball to the first player in his line. He catches it and rolls it down between the other players' legs. They can give it a push to make it roll faster. While they are sending the ball down the line, the leader takes his place at the front of the line. When the ball reaches the last player in the line, he runs to the place where the leader stood first. He throws the ball and it rolls down the line again. The team whose leader gets back to the starting point first wins.

Everyone likes the boy or girl who knows new games and is a good sport.

It's Never Too Late to Learn

Ellen's mother had often said to her, "Now don't go and get hot and dirty."

"Don't play too hard."

"Don't play with rough children."

So after a while, Ellen did not go out to play at all. At recess she did not run out and play with the other children. She stayed in and helped the teacher. She cleaned the boards, put the library books in order, and did other things like that.

When school was over, Ellen went right home and practiced her music lesson.

Most of the other children went out to play or to work in the sunshine.

The other children liked Ellen. And at first they asked her to play with them. But she always said she couldn't. Soon they left her alone.

She became very unhappy. She wanted to do what her mother told her. But even more she wanted to play with the other boys and girls and have them like her.

If you were Ellen, what would you do?

If you were Ellen's teacher, what would you do?

If you were Ellen's mother, what would you do?

How could other boys and girls help Ellen?

Be Agreeable

“The other boys and girls don’t like me,” said Roy. He was smart and they looked up to him in class. But on the playground they did not choose him to be on their teams. He wondered why he was not chosen.

“You can find out why,” his teacher said. “Just take a good look at yourself on the playground.” And this is the kind of boy he saw:

If he could not always have his own way, he wouldn’t play or he wouldn’t help his team to win the game.

He made fun of the children who could not play well.

He always wanted to do the “big” things. He did not do his share of the work—chasing balls, carrying out the balls and other things, and helping to put them away.

Often he was not chosen for the teams. He did not learn to play the games as well as the others who had more practice. Most important, he did not try to be agreeable.

If you were Roy, what would you do about the situation?

If you were one of the other boys and girls, how would you help Roy become a better sport?



Making the Rules

Every game has its rules. The good sport helps to make these rules, and he keeps them. He knows good ways to choose sides and to decide who is "It."

On the playground Mrs. Brown's fifth grade had been doing a lot of arguing. They were getting tired of wasting so much of their play time just arguing over little things, and decided to do something about it.



Classroom discussion is a good means of solving problems which arise during group play.

Now they were learning to "talk it out" instead of "fighting it out."

They had just finished a relay race and were sitting in a circle on the grass. The first question was: "How can we keep some of the players from starting to run before the next player in line touches them?"

"We can put them out of the game if they start running too soon," Dave said.

"The player just behind such a person can shout, 'Wait till you're touched,'" Ted said.

"We can write the rules for relays and read them just before we begin to play. Then we will all know the rules," Mary said.

"We can take points off the score of the team that does not obey the rules," said Sue.

"These are all good ideas," said Mrs. Brown. "Which do you think is best? Why do you think so?"

"I think Mary's is the best to do first," said Sue, "because it would help us to remember the rules. Ted's idea is good, too, because in the excitement a player might forget. If these don't work, we can take points off the score. We shouldn't put anyone out of the game unless he really doesn't try to keep the rules."

Everyone agreed with Sue that this was the best answer to their first question.

The next question was: "Whom shall we choose for referee?"

"I think Don should be the referee because he's the best runner," said Jane.

"Pete would be better," said Betty, "because he knows all the rules."

"I'd choose Albert," said Steve, "because he is always fair. You don't have to be able to run to be a good referee." Albert had had polio and could not run like the other children.

Which of these reasons do you think is best?

If a boy or girl is not able to play running games, what are some games he will enjoy playing? Why is it good for the other boys and girls to play these quiet games with him part of the time?

What else can he do that will make him feel an important part of the group? For example, he may keep score, and he may tell the rules of the game when the players are not sure what to do.

Which of these things would a good sport do when his team wins:

Act as though he didn't care whether he won or lost.

Be happy that his team won.

Say to one of the players who caught a very high ball, "That was a great catch you made."

Say to players on the other team, "You put up a great game."

Say to players on the other team, "Why don't you get a team that can play!"

Which of these things would a good sport do when his team lost:

Say, "It was a good game even though we lost."

Feel angry about it.

Say, "They didn't play fair."

Say, "We didn't half try to beat them anyway."

Tell the other team, "It's fun to play with a good team like yours."



Give a Play: “Cricket”

(*Mr. Jones comes into his employer's office.*)

MR. JONES: You sent for me, Mr. Smith?

MR. SMITH: Yes, Jones. Sit down. I'm sorry to have to tell you we don't need your services any longer. Business has been so bad lately that you'll have to get another job.

MR. JONES: But, sir, you know how hard it is for a man of my age to get a job.

MR. SMITH: Business is business. I can't run my business at a loss.

MR. JONES: If I could only stay for six months more until my boy finishes Lincoln High School. He's doing such good work that he stands a good chance of winning a scholarship to college.

MR. SMITH: (*coldly*) Sorry, Jones, but I can't support your family. That's your job. Couldn't you find a cheaper school than Lincoln to send him to? My son, David, goes there and I know how much it costs. (*He stops speaking and is thinking of his son. David was a cripple and Mr. Smith cared more for him than for anything else in the world.*)

MR. JONES: My son does part-time work there to pay his way. He's good in all kinds of sports, too.

MR. SMITH: (*crossly*) An “all-around” boy, eh?

MR. JONES: Well, the boys all like him. They call him "Cricket."

MR. SMITH: (*in a different voice*) You say the boys call him "Cricket"!

MR. JONES: Why, yes. It's a way of saying he's a good sport, I guess.

MR. SMITH: (*sits for a minute without saying anything*) I've changed my mind, Jones. You may keep your job. Maybe business will get better soon, and if it does you'll get a raise.

MR. JONES: (*very much surprised at this change*) Well, thank you, sir—thank you very much!

MR. SMITH: (*taking out of his desk the last letter written by his son and reading it aloud*)

Dear Dad: I'm getting along pretty well now. But the boys are still mean to me. You wouldn't think they'd tease a boy who couldn't walk or play running games. But they do. That is, all except one. He's my friend. Everybody likes him and he's tops in everything. Yesterday, some boys were taking my books and other things away from me. I couldn't do a thing. Then my friend came along. Oh, he was angry at them and told them just what he thought of them. I don't believe they will tease me again.

We all call him “Cricket.”

I’d sure like to do something for Cricket someday. Have you any good ideas?

Your loving son,

DAVID

(*Mr. Smith folded up the letter and put it away in his desk. Then he said softly:*) Yes, David, I did have a good idea. I’ll have more.

After the play, discuss these questions:

What made Mr. Smith suddenly change his mind after Mr. Jones said the boys called his son “Cricket”?

Would you like to have “Cricket” for a nickname? Have you heard someone say, “That isn’t cricket,” meaning “That isn’t fair”? Why do you think the boys called Mr. Jones’ son “Cricket”?

Why do you suppose the boys teased David, the crippled boy? Do you think any one of them would have done this by himself? Why do we sometimes do things in a group that we wouldn’t do if we were alone?

How did Cricket’s kindness to a crippled boy help his father, Mr. Jones? Do we always know all the ways in which some kind thing we do may help others? Give examples.

Find Out for Yourself

1. A verse in the Bible says, "A soft answer turneth away wrath." We might say it today in these words: If someone gets angry with you, say something kind to him. Try it the next time a quarrel begins and see what happens. For example, suppose someone on the other team said, "You're out. I touched you before you reached first base." Instead of saying "You did not," see what would happen if you said, "Let's ask someone who was watching," or "All right; have it your way this time."

2. Peggy was playing with her friend Susan, who began to tease her. Peggy became angry and told Susan she wasn't going to play with her any more. When Peggy went home, she began to worry about what she had said. So she went back and told Susan that she was sorry. They've played together ever since. If someone teases you, try taking it as a joke and see what happens.

3. When you want to play one game and the others want to play something else, try playing what they want to play and see what happens.

4. If you are not chosen to play on the team or in a game, see what happens when you practice by yourself until you are very good at that game.

Things to Do

1. Help make a survey of play places in your town or neighborhood. First draw a map of the places where you could play near your home or school. Then go to each of these places and find out these things about them:

May children play there?

What kinds of games may they play?

Is there any danger of their hitting other people, breaking windows, or knocking down smaller children?

Are there sticks, stones, glass, or other things that might cause cuts and falls?

Color the good places green; color the dangerous places red. Draw dark blue lines on the places where you can play ball games.

2. Which game do you like best? Plan to learn to play that game very well. Ask some older person to teach you good form and help you with your practice. Do the same with some sport, such as swimming, skating, or other sport popular in your part of the country.

3. If you are not able to play these games, find some other way in which you can be a part of the group.

UNIT II

Let's Play Safe

Answer all the questions you can. Do not guess. Talk them over in class.

1. What is the safe way to walk on a country road?
2. What is the safe way to cross the street?
3. What often causes bicycle accidents?
4. Why do fingers get hurt by car doors?
5. Why do people get run over by cars?
6. What often causes falls in the home?
7. What often causes falls in school?
8. When do water accidents happen?
9. How can you prevent accidents in rainy weather? in snowy or icy weather?



Who Was to Blame?

A child dashed out into the street after a ball. A truck came whizzing by and hit him. He was killed. Who was to blame?

The child was to blame. He was old enough to have learned to stop, look, and listen before crossing a street.

The children with whom he was playing were to blame. They should have found a safer place to play ball. They should have told him not to run out in the street after the ball.

His father and mother and older brother and sister were to blame. They should have taught him to play safely.

The truck driver was to blame. Even though he did not think anyone would cross in the middle of a block, he should have slowed down when he saw children playing.

The citizens were to blame for not making safe places for children to play.

Safety is everyone's responsibility.

Read some of the stories of accidents in the daily papers. Which ones were caused by carelessness? What makes you think so? Tell how remembering certain safety rules would have prevented most of these accidents.

Watch Your Step!

“Watch your step.” “Look where you are going.” “Think about what you are doing.” “Be alert.” What are other ways of saying the same thing?

Here are some accidents that really happened to boys and girls about your age. The accidents were caused by their not looking where they were going or not thinking about what they were doing. How could each of these accidents have been prevented?

The worst thing that ever happened to me was when I put my bare foot into the electric fan. I did not mean to but I was listening to the radio and kicking my feet in the air. Before I knew it, my foot was cut.

I was chasing a boy and I did not see a little girl and she did not see me. I ran into her and we were both knocked down.

I fell over a chair and hurt my chin.

My worst accident was when my bike hit a brick and I fell over onto a pile of bricks.

My bike fell over on me when I bumped into a curb.

I was hit in the head with a bat because a boy was swinging the bat and I got in the way.



I was going downstairs carrying a glass pitcher. I tripped and fell. The pitcher broke and cut my hand. I had to have two stitches taken in it.

I was riding my bike and hit a hole in the sidewalk. I fell and broke my front tooth.

I was hit by an auto when I was crossing the street. I had looked to the right and left but did not hear the horn of the auto coming around the corner in back of me.

Many accidents would be prevented, if we used our eyes, ears, and mind intelligently.





Take Your Time

Many accidents happen when you hurry. Haste makes waste. Speed is the chief cause of automobile accidents. Time saved by speeding is often time lost later.

Judy found this was true. She was to be in a play at school Monday morning. Although she knew she must be ready early, she stayed up until 10 o'clock Sunday night looking at television. That was why she woke up late Monday morning. She hurried through washing, dressing, and breakfast. Running downstairs, she slipped and fell.

Her back was hurt so badly that she could not go to school. The play was almost spoiled because of Judy's absence.

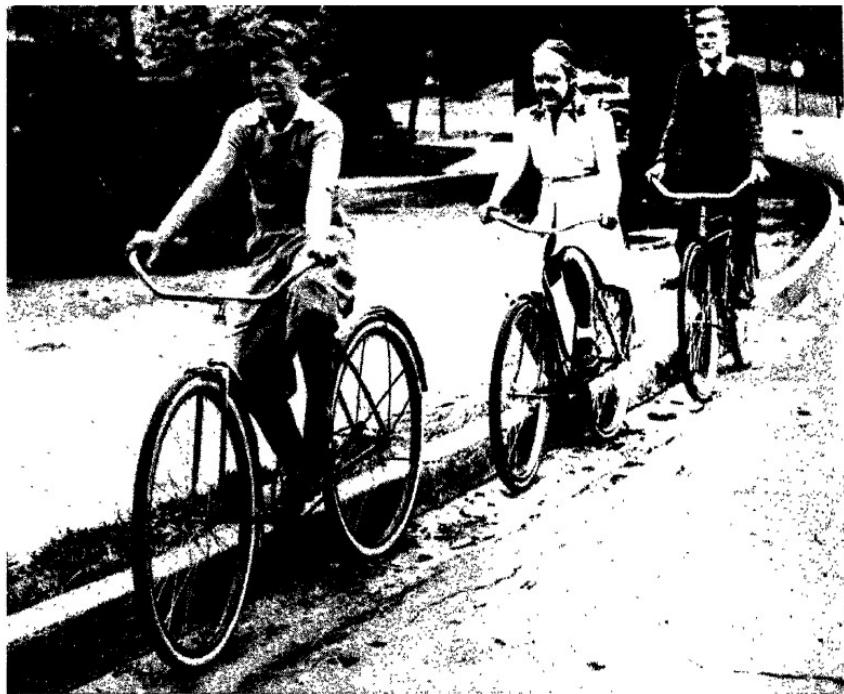
"Oh, *why* wasn't I more careful!" Judy said.

Learn Good Form

GOOD FORM IN RIDING A BICYCLE

These are the rules that the members of Jerry's bicycle club made:

1. Ride on the right side of the street. Keep near the curb. Be careful when you pass parked cars.
2. Carry articles in a basket on the handle bars, not in your hand.



3. Signal with your hand when you are going to turn, if that's the law in your town.
4. Move with the green light, at the correct speed.
5. Ride straight. Do not make quick turns or cut in and out of traffic.
6. Ride alone on your bicycle.
7. Keep your hands on the handle bars.
8. Walk your bike across crowded streets and railroad tracks.
9. Try not to ride after dark, even with lights.
10. Find out from local police the rules for riding bikes.

GOOD FORM IN USING TOOLS

On a camping trip Bob learned how to use sharp tools. When he cut the wood he held the ax correctly.

The right ways to use other sharp tools are shown below.



*To hand a knife
to another person*



*To use an ax
(The left hand is of course
removed before the ax
reaches the wood.)*



To use a saw



*To use a pair
of scissors*

GOOD FORM IN GAMES AND SPORTS

Every game or sport has its own rules. These rules tell how to play the game in the right way and the safe way.

Champs play safely. They want to stay in the game, not sit on the side lines.

A careless person may spoil the fun for every one. Have you seen this happen? If a player is badly hurt, no one can enjoy the game.

The good sport obeys the rules of the game. He never takes chances unless someone is in danger. That is the only time taking chances is brave.

GOOD FORM IN COASTING AND SKATING

1. Coast on hills that are free from rocks, trees, and other things that you might bump into. Don't coast where you have to cross a street.

2. Learn to steer your sled with your feet and body.

3. Skate on ice that you *know* is thick enough. Fasten your skates on well. Look where you're going.

4. If someone breaks through thin ice, call for help. Push a board or branch of a tree out to him. If you have a rope or even a coat that is long enough to reach him, throw one end out to him.

GOOD FORM IN BOATING AND SWIMMING

Water accidents need not happen if we follow these rules:

1. Learn how to swim or to keep afloat.
2. Choose a safe swimming place:
 - a. with no strong currents to pull one down or carry one out into deep water.
 - b. with no hidden rocks or logs.
 - c. with no germs in the water that can make you sick.
3. Always have a swimming buddy with you.
4. If a person falls into deep water he can keep afloat if he "keeps his head." He should lie flat on his back and move his hands back and forth. This is the way to keep afloat until help comes.
5. Learn life saving. The Red Cross gives us a good rule—"Row-throw-go-tow":

Row a boat out to a person in deep water who cannot swim. If you have no boat, push a log or a big board out to him.

Throw a rope or life preserver to him if you can find one anywhere around.

Go to him if you can swim well and have no boat with which you can reach him more quickly.

Tow him; that is, bring him back to shore.

“Safety First”—A Game

This is an all-day game. You play it from the time you get up in the morning until the time you go to bed at night.

Doing something for your own safety counts one point. Doing something to save another person from getting hurt counts two points. If you do anything foolish or careless that could cause an accident, you must subtract ten points from the score. Keep your own score by writing in a pocket notebook what you did and the number of points earned or lost. It's fun to see how many chances you have.

You can play this game with your brother or sister, or with a friend. Sometimes it is fun for the members of a club or a class to play it for one day.

Now you will read about one day when Jerry and his cousin, Joan, played “Safety First.”

SAFETY IN THE MORNING

Joan scored her first two points when she saw the door of the medicine closet in the bathroom open. “That is bad,” she said as she closed the door and locked it. “Four-year-old Bertie has learned to climb. He might climb up and take some dangerous medicine.”

Jerry scored two points when he fastened the screen in the hall window. "My little brother might push against it and fall out," he thought.

As Jerry was coming downstairs he scored one point for going slowly and carefully. It was lucky that he did, for on one of the steps were his sister Judy's roller skates. "Oh, my! they are the very worst thing to leave on the stairs!" Jerry thought. "If Judy were playing 'Safety First' she should lose ten points for leaving them there."

Joan walked downstairs later and helped get breakfast. When she spilled some water on the kitchen floor, she wiped it up right away. That was worth two points.

SAFETY ON THE ROAD AND THE STREET

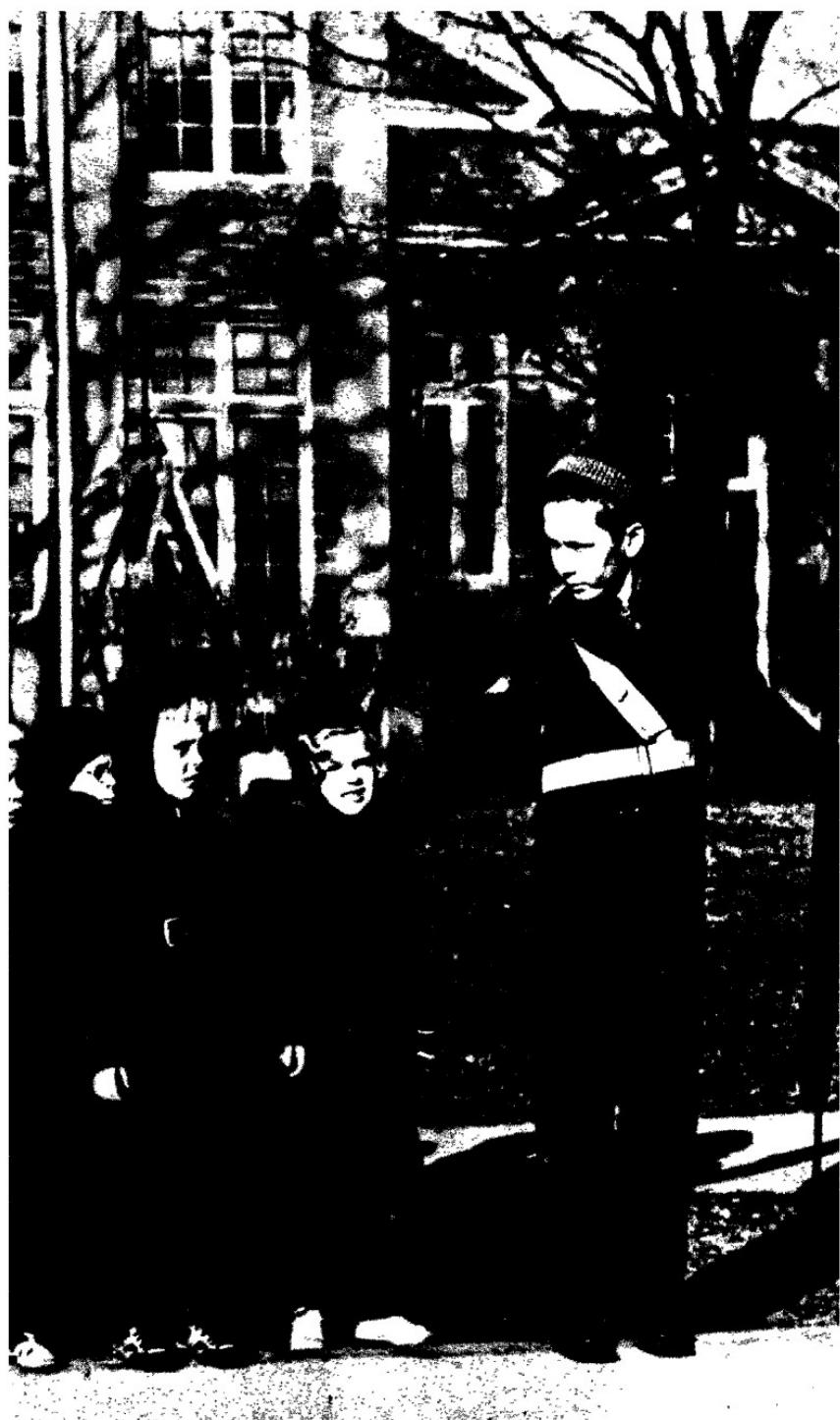
On the way to school Jerry and Joan each earned four points:

One for walking on the left-hand side of the country road, where they could see the automobiles coming toward them.

One for waiting until no cars were coming before walking across the street.

One for crossing only at the corners.

One for waiting for the green light before crossing streets that had traffic lights.



SAFETY IN SCHOOL

In school Jerry took a point for always remembering to keep his feet under his desk, so that no one could trip over them.

Both Jerry and Joan earned another point each for obeying the fire drill rules. When the fire alarm bell sounded, they stood still just where they were. They stopped talking. They marched quietly out of the building.

After the fire drill Joan took an arithmetic test. She worked and worked on one problem but could not get the answer right. This made her angry. She pushed her book and papers hard against the back of her desk. Now a pencil was lying beside the book with the point toward Joan. The sharp point ran into her hand. (Many accidents happen like this as a result of fits of anger.) The teacher sent her to the doctor at once. He had to cut the lead out and put iodine in the cut. Joan lost ten points for that accident.

SAFETY ON THE PLAYGROUND

On the playground Jerry earned five points. In every game he gave his whole attention to what he was doing. This prevented accidents to himself and others and helped him to play a better game.

Joan earned eight points on the playground by showing the smaller children how to play safely on the swings and slides. She made sure that only one child at a time used a swing, and that he sat on the board of the swing. Joan drew a "magic circle" around each swing. When someone was using the swing, other children could not run across the "magic circle." On the slides the little children went up the steps one at a time. They sat facing front when they slid down. No accidents happened to the little children on the playground that morning.

SAFETY AT HOME

That afternoon Joan lost ten points. She had been cutting out some new dresses for her paper dolls. ~~Alice~~ called to her, "Come out and see my new puppy." Joan dropped the scissors and dolls on the floor and hurried out.

A few minutes later Joan's little sister, Baby Peggy, who was just learning to walk, came into the room. She found the shiny scissors. She picked them up and trotted away on her unsteady little legs. She tripped on a rug and fell. The scissors cut her arm.

Joan came running into the house when she

heard Peggy screaming. Blood was running from the baby's arm. Mother was not at home. What should she do? She decided to call the doctor at once.

"Sit still, Peggy," she said. "Joan will come right back to you."

She went quickly to the telephone. "Main 6432," she dialed. "Is this Dr. Brown? This is Joan Miller. Dr. Brown, the baby cut her arm and it's bleeding a lot. Please come quickly."

"All right, Joan. I'll be there right away. You keep her quiet. Get a pad of sterile gauze from the medicine closet. Press the pad right onto the cut."

That helped to stop the bleeding. When the doctor came, he washed around the cut with alcohol and fastened a pad of sterile gauze over the cut.

"Oh, my! I'm glad it's only her arm," cried Joan. "Suppose Peggy had run the scissors into her eye or ear! I know that Peggy gets into everything. How could I have been so careless with those sharp scissors!"

"I should get minus 100 points in the Safety Game instead of minus 10 for leaving them on the floor."



Just before supper in his home Jerry saw Bertie playing with a box of matches. "Oh, Bertie," he said. "Matches are not to play with! Let's put them all back in the box. Then we'll play with your big red ball."

That added two points to Jerry's score.

After supper Jerry earned another two points by placing the fire screen in front of the open fire as soon as he had lighted the fire.

Jerry earned one more point before he went to sleep. When he was taking his warm bath, it began to get dark. He stepped out of the bath tub and wiped himself dry before touching the light. He knew that water can carry electricity. He knew



that it is dangerous to turn on a light with wet hands or when you are standing in water.

Before the day was over Joan had won four more points. At supper she won a point by filling her bowl only three-fourths full of hot soup and carrying it to the table carefully. She gained two points by removing a small rug from the top of the stairs. Someone might slip on it and fall down the stairs.

She earned one more point by using a stepladder instead of a chair to put glasses away on a high shelf.

The next morning Jerry and Joan added up their points in the Safety Game.

Who won? You can find out by beginning on page 29 and finding all the safe and helpful things Jerry did. Write them on one side of a page of your notebook. Write on the other side of the page all the safe and helpful things Joan did. Write the number of points for each. Add the number of points for Jerry and the number of points for Joan. Do the same for the points they lost. Subtract the number of points for the accidents from the number of points they earned. Then you will know who won.

Give a Play: “Pete’s Bad Day”

(Scene I. Pete and his father are in the living room. His father is signing Pete’s report card.)

FATHER: (*evidently displeased, handing the report card back to him.*) You’ll bring home a better report next time, or I’ll know why. After this, you come right home from school and study. No more playing ball all afternoon. No more television at night! Not until you bring these marks up! Your cousin Bill never gets low marks like yours. Why can’t you do as well as he does?

PETE: Aw, Dad. That isn't fair! I tried. I can't do as well as Bill no matter how hard I try. We're different. He's good in school work. I'm good in games and sports.

FATHER: You can't make a living playing games. The trouble is you're just lazy. You could do better if you tried. And I'll see that you do!

(Pete pulls his cap over his eyes and rushes out.)

(Scene II. Pete runs down the street, cap over his eyes, not looking where he is going.)

PETE: *(to himself)* He's always comparing me with Bill. I can't be like Bill. I don't *want* to be like Bill. What will the team do if I can't play with them any more? Gee, I'd rather be dead. Maybe I will get hurt some day and then Mom and Dad will be sorry.

(Just then Pete reaches the corner. Without looking up at the red light, he starts across the street right in front of a passing car. The car hits him and speeds on. He lies in a heap on the street.)

PETE: Oh, my leg, my leg! It must be broken!

After the play discuss such questions as: Why do you suppose the father spoke the way he did

to Pete? Did he want to spoil all Pete's fun? Did he want Pete to make the most of himself?

Was Pete right when he said people are different? What could Pete do well? What could Bill do well? What do you think would happen if Pete spent more time in studying and paid better attention in class? What else could he have done to get a better report next time?

What could he have said to persuade his father to let him play for a while right after school?

Give the play again the same as it is through Pete's line, "I'm good in games and sports." Then change it to show how Pete persuaded his father that he would do better in school work if he played outdoors right after school and studied an hour before supper and an hour after supper. How would the play end then? How would Pete feel?

Make other plays of your own showing how accidents happen when a person is angry or feeling sorry for himself. For example: A girl is worried because she has no friends. She is walking home alone thinking about it. She does not see the "Stop, Look, and Listen" sign on the railroad track.

A boy has quarreled with his brother. He does not see the sign "Men Working" in front of a deep hole in the street.

What Would You Have Done?

Good manners and kindness go hand in hand with safety. Show how these accidents could have been prevented:

1. Jack and Ted were late for the game. They rushed down the school stairs. They bumped into Jane who was walking downstairs. She fell and broke her arm.

What rules for walking in the halls and stairs did Jack and Ted break? Show how they could have prevented this accident.

2. Billy and Tom were playing with a football. Jim and Pete rushed in to play, too. They knocked Tom down. If they wanted to play, what should they have done?

3. Rose was just standing on the playground. Sally was chasing Mary. Mary looked back to see how near Sally was to her. While she was looking back, she ran into Rose and knocked her down. Rose got up crying. Her knee was cut and her dress was soiled. Show how this accident could have been prevented.

Which Is Right?

Write the right way in your own health notebook.

1. Ted is driving nails into a boat he is making. He
 - a. holds the nail near the point.
 - b. holds the nail near the head.
 - c. thinks of other things at the same time.
2. Alice asks Jane for the scissors. Jane
 - a. throws them to her.
 - b. hands her the handle of the scissors.
 - c. hands her the point of the scissors.

A Matching Game

Find the parts of these broken sentences that go together. Write the correct sentences in your notebook.

- | | |
|--|--|
| a. The door of the medicine closet | use a firm stepladder—not chairs or boxes. |
| b. Screens in windows | should be wiped up at once. |
| c. Nothing should be left lying | should be kept away from small children. |
| d. Any water or food spilled on the floor | stop and wait for the green light. |
| e. In reaching for things on a high shelf | give your whole attention to the game. |
| f. When you cross a street having traffic lights | on the stairs. |
| g. In playing baseball | should be kept locked. |
| h. Scissors and knives | should be tightly fastened. |

Things to Do

1. Tell your mother and father all the ways you have learned to prevent accidents in the home.
2. Tell the story of some time when you found out that "Haste makes waste."
3. Look again at the picture on page 24. Tell all the bicycle rules these children are obeying.
4. Find out the most common causes of fires in your neighborhood and how to prevent them.
5. Play the game "Safety First" for one day.
6. "Take Stock of Yourself." (See pages 258-261.)

UNIT III

Let's Learn to Give First Aid

What would you do—

If you and two friends were on a hike and one of your friends slipped and fell off a big rock and was knocked unconscious?

If he had a sprained ankle or a bruise?

If he had a small cut or scratch or blister?

If he had cut himself badly and was bleeding?

If he had broken one of his bones?

If a person had burned himself?

If a person fainted?

For frostbite or snake bite?

If you had a headache or nosebleed?



When to Give First Aid

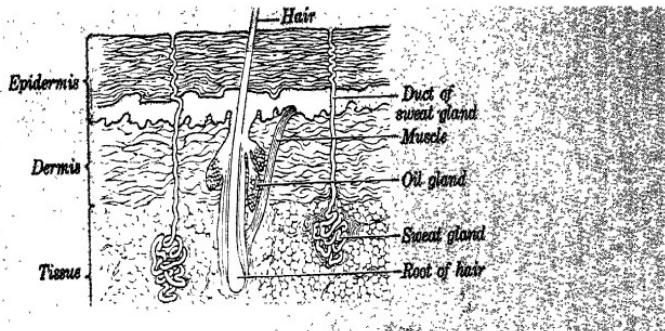
Sometimes on a hike or on a camping trip you are miles away from a doctor. You may be the only person there to help. Then it is very important for you to know what to do. You may save a life.

If someone falls and is hurt, do not move him unless he is in danger. Telephone or send someone for a doctor.

Keep the injured person covered and warm until the doctor comes. It is better to do nothing at all than to do the wrong thing.

In the picture below are some things that should be on hand for giving first aid. Ask the school nurse or someone else who knows to tell you what each of these things is for.





How to Treat Small Cuts and Blisters

Never say, "It's only a scratch." Even a small cut or blister should be given first aid.

Why? Because bacteria can get into the body when the skin is broken.

The skin has two parts—the outer layers and an inner layer. You can see the outer layers clearly when a blister is formed.

To treat a blister:

1. Wash all around it with soap and water.
2. Sterilize the point of a needle by holding it in a flame for a minute or two.
3. Open the edge of the blister with the needle and gently press out the liquid in it.
4. Cover the blister with a sterile bandage.

Pricking the blister with the needle will not hurt because there are no nerves in the outer layers of your skin. But look at the picture above and you will see how many other things there are in the skin.

Have you ever had a cut that would not heal? That was because bacteria had gotten into it. First aid for cuts tries to get rid of the bacteria.

This is a good way to treat a cut or scratch:

1. Clean your hands with soap and water.
2. Wash the skin around the cut with boiled water or alcohol. Use what your own doctor or the school nurse has told you is best to put on a cut to kill germs.
3. Cover the cut with a piece of sterilized gauze. You can sterilize any piece of clean white cloth by putting it in a hot oven, ironing it with a hot iron, or boiling it. That will kill all the bacteria on it. Then be careful that nothing touches the part of the gauze which is put right on the cut. You must keep the sterilized gauze free from germs.
4. Keep the clean cloth in place with a bandage or adhesive tape, so that it will not get loose and slip about.

The nurse or the scout leader will show you the best way to bandage a finger, a foot, a hand, or an arm. Practice until you can do it well.

If the cut is small but deep, such as the wound made by running a nail into your foot, make it bleed and see a doctor right away. The danger from a deep cut is from bacteria.

If an artery in the head has been cut, the best thing to do is to press a pad of sterile gauze right into the wound. You can see in the drawing on page 45 where to find the main artery that carries blood to the head.

The head may be hurt badly in many ways, such as these:

My worst accident was when I fell out of a swing and cut my head.

My brother and I were playing and he pushed me into a heavy floor lamp. It made a big cut in my head which started to bleed a lot.

A first aider presses sterile gauze on a wound.



When I was riding my bike, I ran into a boy on his bike. I was knocked off and I got a cut on my head an inch long. I had to have three stitches taken in it.

I was riding my horse one night. He shied and I fell off and cut my head on a stone.

Should these accidents have happened?

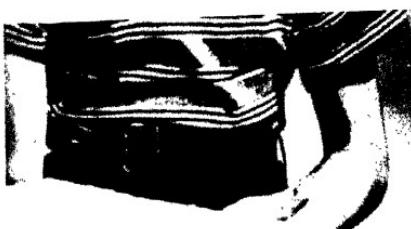
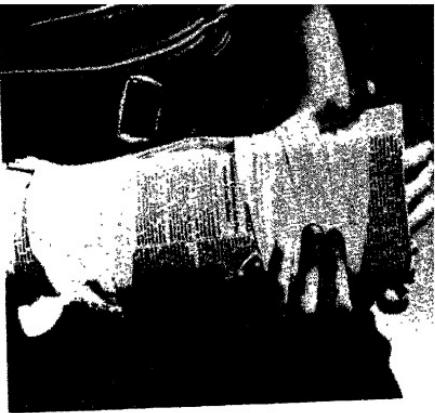
Suppose Someone Breaks a Bone?

My worst accident was when I broke my arm; I was not looking where I was going.

My pony jumped the fence with me and I fell off and broke my leg.

What can you do about broken bones? Not very much, except to go for help. Never move the person unless he is in danger. Just keep him safe, warm, and comfortable.

If the broken ends of the bone have not pushed through the skin, the doctor will use splints. (Splints are thin pieces of wood used for holding a broken bone in place.) The doctor fits the broken parts together. The splints hold them together for weeks until the bone is healed. The pictures on the next page show some ways of keeping the ends of the broken bone from sliding around, when the person has to be moved.



Splints for broken bones

But if the broken bone has pushed its way through the skin, the doctor is very careful to keep bacteria out. He washes the skin around the wound very carefully and lays a piece of sterilized gauze over the wound.

Facts About Burns

In the United States in one year almost ten thousand persons were burned to death. Almost one third of these were school children. Burns and scalds from boiling water or oil happen to children more often than any other kind of bad accident.

You have already learned a number of ways to prevent bad burns. Which do you remember?

Perhaps you have thought fire drills in school were not necessary. But when there is a real fire, knowing just what to do has saved many lives, as it did in Texas City, Texas, in 1947.

A ship blew up at its dock. There was a great explosion. Glass from broken windows flew over the school rooms and cut the children. Pieces of walls and ceilings fell down on them. In one room a whole wall came down.

But when the fire drill signal came, the children in this school knew exactly what to do. They took their places in the fire drill line. They walked

down the stairs. There was no crowding, no pushing, no running.

When one stairway was blocked, the leader raised both hands over his head. Every child knew this signal. It meant: "Turn back and go to the other exit." They turned back quickly and walked out to safety.

Bad burns should be treated by a doctor.

Small burns without blisters can be treated at home in this way:

1. Put an ointment for burns on the burn.
2. Put some clean gauze over the ointment.
3. Cover the gauze with a clean bandage.

Why is each of these steps necessary?

If Someone Has Fainted

When a person becomes unconscious—does not know what is going on around him—we say he has fainted. He faints when too little blood goes to his head.

If you feel faint, the best thing to do is to sit down and put your head low between your knees. This often prevents fainting.

If a person has fainted and you see that his skin, lips, and nails are pale, his body is cold and moist, and his pulse is weak:

1. Send for a doctor.
2. Put the person on the floor or a bed, with his head low.
3. Keep him comfortable and warm, but not hot.
4. Have some hot coffee to give him when he "comes to."

What to Do for Frostbite

If your ears or hands or feet have been frostbitten, you should try to get them warm *slowly*. One way of doing this is to put them close to a warm part of the body. The warmth starts the blood flowing.

Do not hold frostbitten parts near heat that is any warmer than the body. Do not rub them with snow, as people used to do. Do not rub them at all.

How to Treat Snake Bite

Some snakes in our country are poisonous. The three most common poisonous snakes are the water moccasin, the rattlesnake, and the copperhead. Find out whether these or other poisonous snakes are in your part of the country.

A snake seldom strikes a person unless he has touched or frightened it. Also a snake must have

half its body on the ground when it strikes. That is why people are seldom bitten above the knees. Wearing high leather boots or leggings would protect you from snake bites.

A bite from a poisonous snake should be treated at once. Don't wait. Send for a doctor and keep the person lying down and quiet. The more he moves about, the quicker the poison (called venom) will get to all parts of the body.

A person who knows how to give first aid may try to get some of the poison out of the wound. He can do this by making X-shaped cuts one-half inch long through the skin across the snake bite. The blood from the cuts helps to wash out some of the snake's poison. More of the poison may be drawn out by putting the open end of a heated bottle over the cuts. Scouts use this method. You will find it described in the latest first-aid book.

Also put a cloth band around the leg or arm or body above the bite. This is to keep the vein from carrying the poison quickly back to the heart. Be careful not to have the band too tight. About every half hour loosen it for a minute or two so as not to stop the circulation of the blood, then tighten it again.

The other way of treating a snake bite is with

antivenin. This makes the snake bite harmless, if it is given soon enough. A snake bite should be treated immediately.

How to Treat a Headache

A headache is a sign that something is wrong. It may come from hunger or from being tired, or from indigestion. It may come from your eyes, or from bacteria. Worry may also bring on a headache.

Do not take headache pills or powders.

Many headaches will go away if you lie down and rest in a quiet place. A cold cloth or ice cap will help to relieve the pain.

If you have headaches often, consult your doctor.

How to Treat a Nosebleed

The best way to treat a nosebleed is:

1. Have the person lie on his back with his head up on a pillow.
2. Loosen his collar.
3. Put a cold towel at the back of his neck and over his nose and forehead.
4. Call a doctor if the bleeding does not stop in a few minutes.

“Be Prepared”

If an accident happens, we should know what to do. Until the doctor comes, we should do only what we are *sure* is right.

Give a Play: “Big Sister Sue”

(Big Sister Sue has studied first aid and often the children come to her when they are hurt.)

DANNY: Look at my hand, Sue. See this big blister!

BIG SISTER: I'll take care of it for you. First, I'll wash my hands with soap and water. Then I'll wash your blister.

DANNY: That gets rid of the germs, I suppose.

BIG SISTER: Yes. Now I'll sterilize a needle.

(Jane comes into the room. She holds up a finger. Sue lights a match and holds the point of the needle in the flame.)

DANNY: Why do you do that?

BIG SISTER: To kill the germs on the needle. Now the needle is cool and I'll put it in the blister, right here on the edge.

DANNY: Ouch!

BIG SISTER: *(laughing)* Why, Danny! You know that didn't hurt. It's just the outside layer of skin with no nerves in it. You cannot feel anything.

DANNY: (*laughing*) It didn't hurt at all!

JANE: I have a splinter in my finger. It hurts.

BIG SISTER: Now I'll press gently on the edges of the blister. Just a minute, Jane.

DANNY: See how flat the blister is now!

BIG SISTER: It's ready now for a clean bandage.
(*She puts bandage on his hand.*)

DANNY: Thanks, Sue. It feels better already.

BIG SISTER: And no germs will get in it now. Let's see that splinter, Jane.

JANE: You do about the same things when you take out a splinter, don't you?

BIG SISTER: That's right. There are six steps for both. Danny, do you know what they are?

DANNY: Wash your own hands with soap and warm water. Clean the skin around the blister or splinter. Sterilize the needle. Use the needle to puncture the blister. Press out the water in the blister, or lift out the splinter with a needle. Put on a clean bandage.

The girl playing the part of Big Sister should learn from the nurse or doctor the right way to treat a blister. She should practice until she can do each step just right.

After the play, talk about questions like these:

Why should a blister be treated in this way?

Why use the needle in taking out a splinter?

Which of the steps would you follow in treating a small cut or scratch? What else would you do?

Give other plays like this about each of the other kinds of first aid you have just studied.

What Would You Have Done?

1. Mike and Pete were having a race on their bikes. They came to the finish line at the same time. Mike turned off on the grass to keep from running into Pete. Unluckily Pete had the same idea. They both were going too fast to stop, and so, Crash! Pete had a few bruises, but Mike hit his head on a stone and was knocked unconscious. If you were Pete what would you have done (1) to prevent the accident in the first place, and (2) to help Mike after he was so badly hurt if no one else was around at the time?

2. Jim's little brother had left a cart of blocks on the sidewalk. Jim was going fast on his bike. He tried to miss the cart but hit it. His bike turned over and he skinned both knees. What would you have done to prevent the accident in the first place? How would you treat his skinned knees if there was no doctor or nurse to help? What could he have done?

3. Don was on a hike with his friend Tom. Tom stepped on a snake that looked to him like a rattlesnake.

The snake bit him. If you were Don, what would you have done to help Tom? If Tom knew there were poisonous snakes around, what should he have done to prevent the accident?

Things to Do

1. Ask a nurse to show you her first-aid kit and tell you what each thing is for. Then look in your medicine closet at home. Ask your mother if she has all the things the nurse says should be in every home.
2. First aid is learned only by practice. Join a first-aid club to practice just the kind of first aid you might be likely to have to give. This may be part of your Scout or 4-H program.

UNIT IV

Let's Learn About the Heart and Blood

To be good at first aid you should know something about the blood and the tubes that carry the blood to all parts of your body. What do you already know about this? Perhaps you have been curious about such questions as:

1. How does your heart work?
2. How does blood get to all parts of the body?
3. How does the doctor examine your heart?
4. What is blood? What is it good for?
5. Why are people asked to give blood to the Red Cross?



Listen to Your Heart Beat

Put your hand on the left side of your chest.
Can you feel your heart beating?

Now run upstairs quickly. Feel your heart again. Is it beating faster and harder?

Try listening to a friend's heart beat by putting your ear against his chest where his heart is. Can you hear it beating?

If you have a tube of cardboard or heavy paper, put one end of it over someone's heart. Listen at the other end. Can you hear his heart beat more clearly than if you just put your ear to his chest? Long ago a doctor saw two children sending sounds from one end of a hollow log to the other. This gave him the idea for the modern stethoscope which doctors use to examine the heart. You will see the picture of a doctor using a stethoscope on page 59.

How many times does the heart beat per minute? If you can hear it well, you will find it beats about 90 times a minute. It beats fast after you have been running or if you are afraid. Children's hearts beat faster than bigger persons'. A grown person's heart beats about 70 to 80 times a minute. Some persons' hearts beat faster than others'.

How the Heart Works

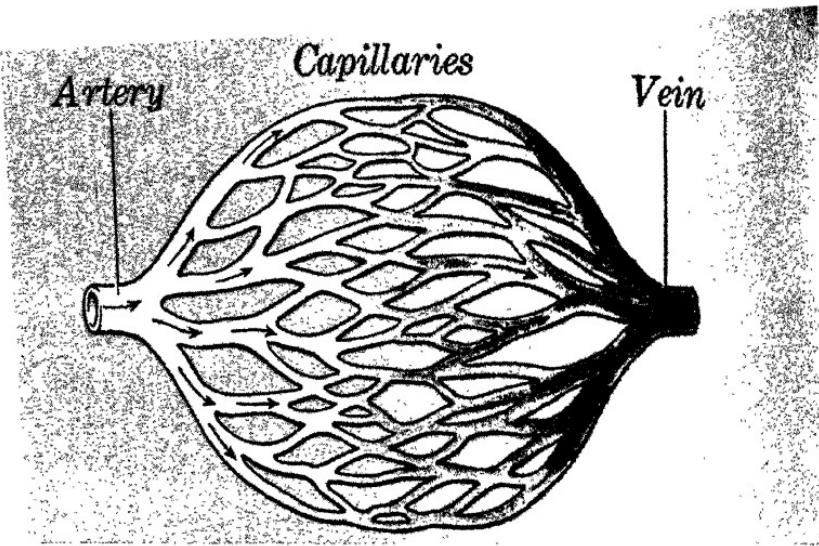
Your heart is somewhat like a rubber ball, divided in the middle into two parts. It is made of muscles. When the muscles contract they pump the blood out. Each time the heart pumps you can feel a beat.

After each beat, the heart muscles rest for less than half a second while the heart goes back into shape. The only real rest the heart ever gets is between beats.

You can see a little better how the heart works by filling a hollow rubber ball with water. Then give the ball some quick squeezes. The water comes out in big spurts. That is the way the blood comes rushing out of the two sides of the heart when the muscles contract.

Where Does the Blood Go?

The blood from the heart starts flowing through the tubes leading out from the heart. These elastic tubes are called arteries. Two arteries carry blood from the veins and heart to the lungs to get oxygen. Can you find them in the picture on page 62? Find all the main arteries in the picture. Find the artery that goes to the head. Find the artery that goes to the lower part of the body.



Some of these arteries are close to the skin, as you can see on your hand. Find the artery in the wrist, very close to the skin. That is where the doctor "feels your pulse." Put your fingers there. Can you count the heart beats in the artery?

What makes the pulse? As each squirt of blood comes from the heart to the arteries, it stretches the arteries. When the blood flows on, the arteries go back to their regular size.

The arteries carry the fresh blood to all parts of the body, except for the two which carry the used blood to the lungs. The big arteries branch into smaller and smaller tubes. At last they get so small that they can carry blood to every part of the body.

But how does the blood get back to the heart?

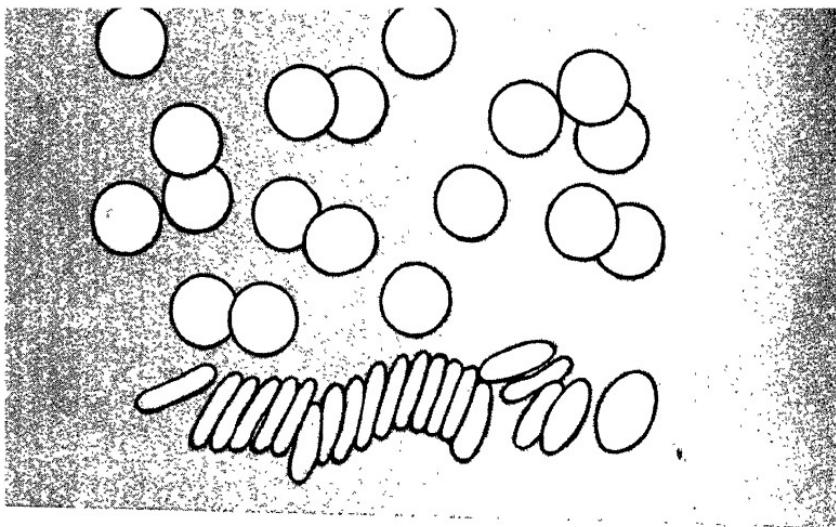
The arteries branch into tubes as fine as hairs. These very small blood vessels are called capillaries. (The word capillary means hairlike.) You cannot see the capillaries without a microscope. It is the blood in the capillaries in the skin that makes your cheeks pink.

The capillaries run together like a lot of little brooks flowing into the veins. The veins are the blood vessels that carry the blood back again to the heart to be sent to the lungs. This is the way the blood circulates through the whole body—from arteries, through capillaries, to veins.

The blood flows more slowly through the veins. It has lost the force of the push the heart gave it as it pumped it out. That is one way you can tell which kind of blood vessel has been hurt. Do you remember that Bill saw the blood coming from Jack's arm in spurts? That showed that an artery had been cut. The blood in arteries is bright red. When an artery is cut the blood comes out in spurts. The blood in veins that have been cut flows more slowly and is a darker color.

What Is Blood?

You have seen blood. What is it? It is mostly water. But what makes it look red?



Red blood cells, many times larger than they really are

It is the red blood cells that make blood look red. They are called the red corpuscles. There are millions of them. They float around in the watery part of the blood like fish in a river.

The red blood corpuscles are very important. They carry food and oxygen to all parts of the body. How the food we eat gets into the blood you will learn later.

There are white corpuscles, too. The white blood corpuscles fight the germs that get into the body and try to make you sick. When there is a battle on between the germs and the white blood corpuscles, you can help by getting lots of rest in bed. Then the white blood corpuscles can do their best work.

The watery part of the blood is called plasma. It is very important, too. It is not just plain water. It carries the digested food. It has also something to protect us from germs, and something that clots the blood and keeps us from bleeding too much.

You have heard a great deal about blood plasma over the radio and television, and in the newspapers. Blood plasma is needed to save the lives of soldiers and other persons who have been badly hurt.

Many healthy persons give a pint of their blood to the blood bank. Then the plasma is separated from the rest of the blood. It can be dried or frozen and sent by plane to any part of the world. The doctor adds sterile water to it and the plasma is ready to be put into the veins of the badly hurt person.



Give a Play: “Magic Medicines”

(Scene I. On a battlefield at night. Guns are heard. Lights flash. A soldier lies on the ground, unconscious. Two men carrying a stretcher come up to the soldier. They put the stretcher down.)

CARL: *(kneeling by the wounded soldier)* It's too late now for plasma, Dave. But here is the new life-saver, albumin, we can use! *(He takes out the medicine and puts it into the soldier's arm.)*

DAVE: Now he is beginning to take regular breaths again. Let's get him back to the hospital *(They put the soldier on a stretcher, walk away with him.)*

(Scene II. In the hospital. All is clean and bright. Carl and Dave are watching a doctor.)

DOCTOR: That was good work. The albumin made from blood saved his life. This new blood medicine saves lives when it's too late to give blood plasma.

(Carl and Dave and the nurse lay the soldier on a cot. Carl and Dave go out.)

NURSE: Many miracle medicines are made from human blood, aren't they?

DOCTOR: Yes, blood has in it some 60 different substances. There is magic in many of them.

NURSE: Have you used the blood medicine for whooping cough?

DOCTOR: Yes, before the war I used it for babies under six months old. It stops whooping cough like a red light stops traffic.

NURSE: These blood medicines have saved so many lives here at the front!

SOLDIER: Hello! Where—oh where—am I? Am I dreaming?

NURSE: You are safe in a hospital, Soldier.

DOCTOR: You are going to get well, my friend. Albumin saved you.

Give a Play: "The Wonderful Pump"

(*Ben is watching his father as he works in his shop.*)

BEN: What's the trouble with the pump, Dad?

FATHER: This old pump is about worn out. I wish this pump was as good as my heart so that I would not have any trouble.

BEN: But your heart is no bigger than your fist!

FATHER: That's true. But the little heart can pump for seventy years or more and not wear out, because it has two pumps in one. The right side of the heart pumps blood to the lungs. The larger

pump on the left side sends blood to all parts of the body. Listen to your heart beat.

BEN: Two pumps! Does it ever get any rest?

FATHER: It rests between beats. It is really resting about twice as much as it is working.

BEN: How much work does it do?

FATHER: It pumps between five and six quarts of blood every minute.

BEN: Why, Dad! That would be—let me see—(*Ben writes the figures on a board*) 6 qt. x 60 min. is 360 quarts an hour; 360 qts. x 24 hrs. is 8520 quarts a day! How hard the heart works!

FATHER: The heart feeds itself well. It uses the food from about one-twentieth of the blood that goes round and round through the body.

BEN: Remember when Roy had rheumatic fever last year? He rested in bed for weeks. When he did get up, he wasn't allowed to play running games for a long while. Now he is well again and able to go in for certain sports.

FATHER: Yes, Roy did what his doctor told him to do.

BEN: I wonder whether anything is the matter with my heart. When I run up a hill, it goes dup-dup-dup-dup. When I'm scared, my heart goes even faster.

FATHER: (*laughing*) You need not worry about that, Ben. Everybody's heart beats faster when they move fast or when they are getting ready to move fast.

BEN: Like when I'm scared and ready to run?

FATHER: Yes. Many times a day our hearts are told to pump faster, and they do.

BEN: The poor heart! How can we cut down some of those "pump faster" signals?

FATHER: Just take it easy. Don't be on the run all the time. Work a while, rest a while, play a while. And get plenty of sleep.

BEN: One time you said worry was as bad as hurry.

FATHER: Yes, that's true. And getting angry makes the heart work harder too.

BEN: I guess being good-hearted and kind to others is one of the best ways to have a good heart.

FATHER: You're absolutely right!

Using What You've Learned

1. If an artery was cut and the blood was coming out in spurts, where would you put pressure and why?

On the side away from the heart?

At a point between the cut and the heart where you press the artery against a bone?

Right over the cut, using a pad of sterilized gauze?

2. If you found that a vein was cut and the blood was coming out slowly, where would you put pressure and why?

3. You know the heart beats faster than usual when you work or play hard. This is all right unless you work or play too long and too hard. You also know that the heart beats more slowly and has more time to rest when you sleep. So what would you do to give your heart the rest it needs?

Not work or play at all.

Play football, running races, and other hard games before you have a heart examination.

Play a quiet game between running games.

Lie down and rest awhile on a long hike or when climbing a mountain.

Sleep at least ten hours every night.

Things to Do

1. Tell one thing you have learned about the heart and blood. Make a poster which will tell someone else.

2. Help a child who has to be careful of his heart to feel like the other children in other ways.

UNIT V

Let's Eat

When a number of boys and girls were asked, "What do you want to learn about next year?" many answered: "More about food."

What do you already know about:

Why you need food?

Why people do not eat the food they need?

How to get the food you need?

How to be sure that the food you eat is clean?

As you read ahead you will build onto what you already know about these questions.



People Eat Differently

Jack Spratt could eat no fat,
His wife could eat no lean,
And so between the two of them,
They licked the platter clean.

Jack ate all the lean,
Joan ate all the fat,
The bone, they picked it clean,
Then gave it to the cat.

Yes, people eat differently. Some eat more than others and still are thin. Some eat less than others and get fatter and fatter. Tony's family does not eat the same kind of meals as Bill's family, but both families are healthy.

But everyone needs certain kinds of food and the right amount of food for him. He needs food to be well, strong, and happy.

Here are some reasons that boys and girls give for wanting to be well and strong:

So I can do things the other children do.

So I can play football well.

So I won't get sick so easily. It's no fun to stay in bed.

So I can go to camp.

So I can play tennis.

So I won't just drag myself around. If you aren't well and strong, you don't have much fun.

So I can be a singer or dancer.

So I can be a nurse: a nurse has to be well and strong.

So I can be a farmer.

So I can be a famous wrestler.

So I can be a scientist.

These are all good reasons why we need the right kind and amount of food. Now let us find out from science a little more about why we need food and what food does for us.



Our Need of Food

Try to think of four reasons why you need food. Then read the next sentences:

1. You need food to give you power to work and play.
2. You need food to help you grow and to have strong bones and muscles.
3. You need food to keep the body running smoothly.
4. You need food so that you will not get sick easily.

FOOD IS FUEL

Food gives power to work and play. Without food you could not run races, play ball, or go fishing and swimming. You could not dance or do stunts. You could not even lift your hand. Your "pep," or energy, or power to walk and play, comes from the food you eat.

What happens when a person has been too sick to eat? He can hardly walk the first time he tries to get out of bed.

Baseball and football players often have a "training table." They eat together. They are given the food that is best to build their bodies and give them plenty of energy.

But how does food give you energy or pep? There must be energy stored up in food. And so there is, just as energy is stored up in coal and gasoline. These are fuels you know well. Food is a fuel, too.

Gasoline burned as fuel in the automobile engine supplies the power to make the wheels go round. Gasoline burned as fuel in an airplane supplies the power to turn the propellers very fast. Food burned as fuel in your bodies supplies the power to make you move. It gives your muscles power to contract. And, as you know, when muscles contract they move the bones. That makes it possible for you to climb, run, throw a ball, write a letter, and do many other things.

Some of the energy from food is needed even when you are lying still. What muscles are working then? Yes, the heart muscles, of course. The lungs are working, too, and many other parts of the body are using up food energy even while you are asleep.

But all the energy in food is not used to make the muscles contract. Some of it is set free as heat. That is why a room full of people becomes hot. That is why you become warm when you exercise. Food keeps you warm.



FOOD BUILDS AND REPAIRS THE BODY

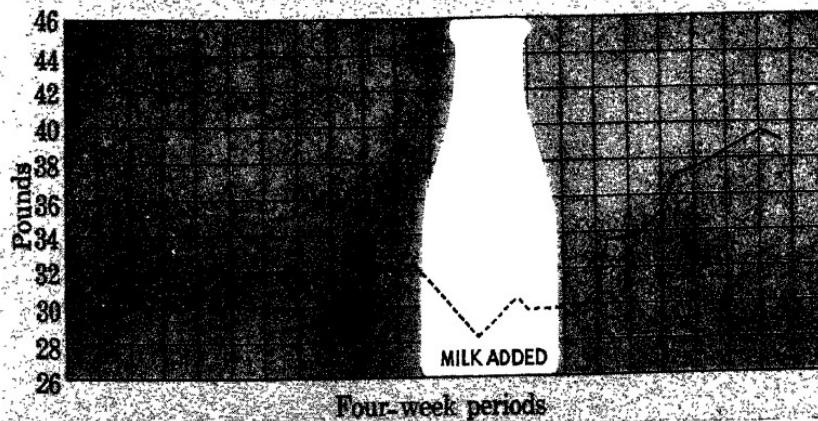
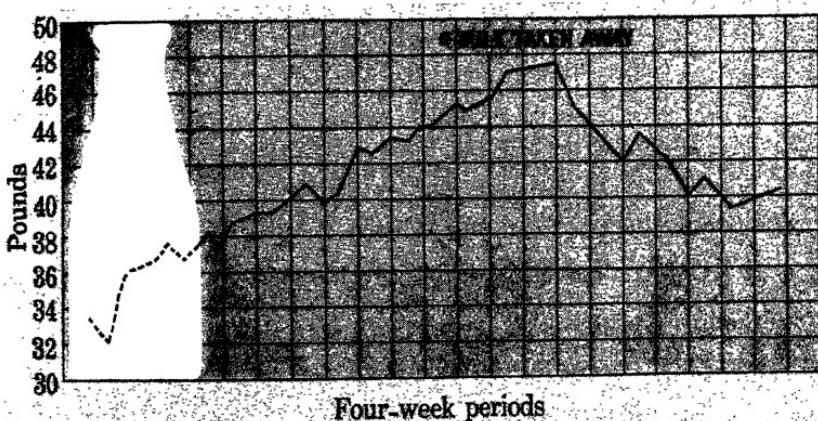
You have seen how quickly a tiny kitten grows to be a cat. You have seen how fast babies grow, too. A baby may use as much as one third of his food to build muscles, bones, and blood.

You are still growing. Soon you may begin to grow faster. When you begin to grow faster, you need to use more of your food for building. Food helps you *to grow* as well as *to go*.

And as the tiny parts or cells of your body wear out, you need food to repair them.

Children can be made to stop growing by changing their food. It seems like magic. When they have plenty of certain foods, they grow. When these foods are taken away, they stop growing.

Look at the weight records below. A line going upward means gain in weight. A line going downward means loss in weight. See how the lines go up when the children are given milk. See how the lines go down when milk is taken away. Many other experiments tell the same story: food is needed for growth.



FOOD HELPS TO KEEP THE BODY RUNNING SMOOTHLY

What does a car need besides gasoline to keep it running smoothly? Is much of these things needed? Little things sometimes make a big difference, don't they?

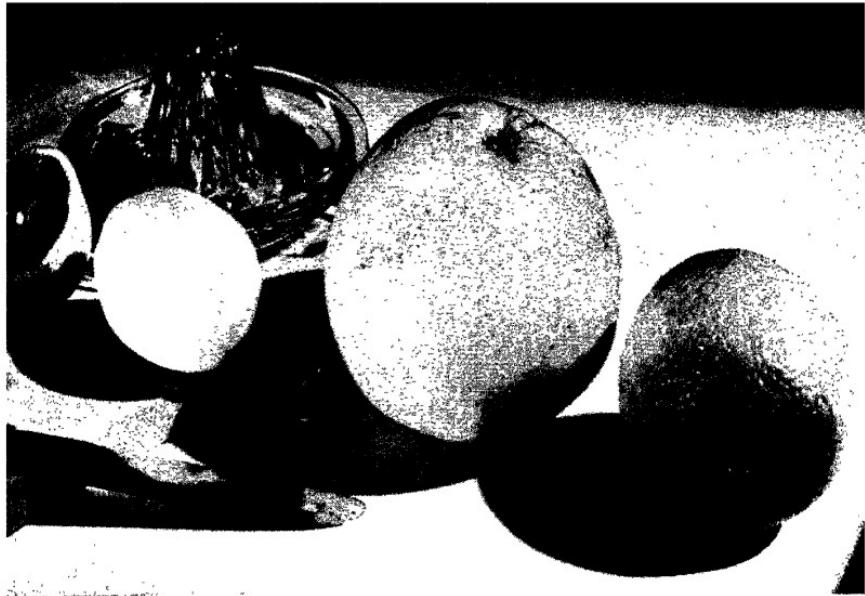
Vitamins and minerals in your food are like that. You need only a small amount of them, but if you do not have them, there is trouble. The body machine no longer works well.

Scientists have shown what happens when you do not have enough of any of the minerals and vitamins.

For example, without calcium and phosphorus the bones will not be strong and the muscles cannot contract. But you can get all the calcium and phosphorus you need from fish, eggs, milk, and vegetables.

Without iron, the blood could not carry its load of oxygen to the muscles and you would become pale and sick. But you can get all the iron you need from whole-grain cereals, and bread, green vegetables, eggs, and meat. Liver is especially rich in iron and also in certain vitamins.

Life itself depends upon having enough of all kinds of food the body needs. These are supplied in any well-balanced diet.



FOOD HELPS TO PREVENT SICKNESS

In the days of the early explorers, sailors often got a disease called scurvy. Their gums became sore and began to bleed. Their teeth fell out. Their bones became soft and they got other diseases easily. At the beginning of a voyage to India in 1497 and 1498 Vasco da Gama had a crew of 160. Before the end of the voyage 100 of these sailors had died from scurvy.

About a hundred years later Captain Hawkins' sailors had no scurvy. Why? They all had lemon or lime juice. The vitamin C in lemons, limes, oranges, or tomatoes will prevent scurvy. No one in any part of the world need have scurvy today if he watches his diet.

Another disease is caused by lack of vitamin A. One time in Denmark, many children's eyes became red and sore. They were the children of farmers who made most of their money by selling butter. To make as much butter as possible they skimmed off every bit of cream from the milk. Only the skim milk was left for their own children. And skim milk has little or no vitamin A in it. Without the vitamin A, the children became sick. As soon as they were given some butter, they became well again. You can get all the vitamin A you need in butter and cream and whole milk, in vitamin-A margarine, egg yolk, and green and yellow vegetables.

But food plays a part in helping to prevent many other kinds of sickness. If the person eats the right kinds and amounts of food, he may be less likely to catch colds, or at least less likely to have bad colds. In one experiment animals that grew up on poor food had more colds in later life than those who had the right kind of food when they were young.

Milk, egg yolk, butter, whole grains, leafy vegetables, and citrus fruits have been called "protective" foods. Why is that a good name for them? Would "perfective" foods be a better name? Why?



Food and Feelings

Look at the pictures on pages 136 and 138. This boy and girl eat the right kind and amount of food. How do they look? How do you think they feel?

How do you feel when you eat too much? Do you feel lazy and slow? Do you feel like sitting around the house and not going out to play?

How do you feel when you eat too fast?

Do you feel uncomfortable, as though there were a lump in your stomach?

How do you feel when you do not eat enough—or enough of the right kind of food? You may feel cross or have a headache, or not feel like working or playing.

The war in other countries caused much hunger. People who were very hungry could not keep their minds on what other people were saying. When they were standing or working, they suddenly became so weak that they had to sit down. They "moved like ghosts." The children grew thinner day by day.

Food makes a difference in the way you feel.

If food is so important and is needed for energy, growth, and health, why do so many people not eat the kinds and amount of food they need?

Why Some People Don't Eat the Food They Need

THERE IS NOT ENOUGH FOOD TO GO AROUND

In some parts of the world there is not enough food for all the people who live there. They do not eat the food they need because they cannot raise it or buy it. This is not true of our country. There is food enough for everyone. "Waste not, want not." If no food or land were wasted, everyone would have enough food.

DISLIKE OF CERTAIN FOODS

One day some boys and girls were talking about why they disliked certain foods. These are their reasons:

1. The food was burned or spoiled or not well cleaned.
2. The food was served on dirty dishes.
3. Too much food was served at one time.
4. Someone in the family did not like a certain food and the children said, "We don't like it either."
5. The food was eaten at a time when the person was angry or frightened or sad.
6. The food really disagreed with him.

All of these things may make a person really dislike certain foods.

But often it is just a notion. A person thinks he does not like a food, even though he has never tasted it. That was the way with Betty. She said she did not like carrots. One day her father said, "Just eat the orange pieces." So she picked out the orange pieces and, before she knew it, she had eaten almost all the carrots on her plate.

People who do not like vegetables or other good foods can usually learn to eat them. It is only once in a while that a person really cannot eat certain foods. He is allergic to them.

NO APPETITE

Sometimes people do not eat the food they need because they don't feel like eating. There are a number of reasons for lack of appetite:

1. The food does not look good; the way food is served makes a difference.
2. The kitchen or dining room is dirty and you see flies on the food.
3. You have been indoors all day and have done nothing to "work up an appetite."
4. You have been taking candy or soft drinks between meals.
5. You have not eaten enough foods that have the "appetite vitamins" in them.



Ways to Get the Food You Need

If your mother gives you the food you need at every meal, then all you have to do is eat it. Who wouldn't want to eat a good breakfast or supper like the one in the picture above?

If your mother wants you to be strong and healthy but does not know about the foods you need, then you can read the next unit of this book to her or tell her about the foods you need every day. You can help her plan meals and buy food for the day.

If there is not enough money to buy the food you need, you can see the nurse or the teacher about getting a good lunch in school. In many schools a child who needs a good lunch and has no money to buy it can get it free. And the other children do not know he is not paying for it.

In the country, there are many ways to get food at little or no cost. If you live near the ocean you can get sea food—oysters, clams, fish, crabs. Sea food can take the place of meat part of the time. It is very rich in iodine. You need only a little iodine, but you cannot do without it.

If you live inland you may be able to have your own fish pond. Robert had been reading a little book about making a fish pond.

“Father,” he said, “do you suppose we could make a fish pond?”

“Let’s see if we can,” said his father. “Fish is very good food.”

First they walked over their farm looking for the best place to make a fish pond. The best place was at the bottom of two hills that came together. If they walled up both ends of the little valley, the water would run down the sides of the hills into the pond. When the pond was full of water, men from the Bureau of Fisheries put in it many

little fish. In time the fish grew big enough to catch. That was fun for Robert and his father. And what a good supper of broiled fish, potatoes, and tomato salad they had!

If you have even a small yard, you can raise some vegetables and fruit.

When Peter and his family moved to the country, he said, "I hope there will be a garden."

But when Peter saw the yard he said sadly, "Oh, there isn't any garden! There's only hard bare ground with rocks and tree stumps on it."

"We can make it into a garden if we work hard," his father said. "At least it is sunny."

First, they picked up the rocks and carried them to a gully that needed to be filled.



Second, they burned the stumps.

Third, they made the soil better by putting manure all over the garden two inches thick.

Fourth, they ploughed the garden. As the garden was on the side of a hill they ploughed across the hillside, not up and down. This helped to keep the soil from washing down the hill. Ploughing loosened the soil and mixed the manure with it. Loose soil holds the water better, and that helps plants to grow.

Before spring came, they had the garden ready to plant. They planted peas, carrots, string beans, and other vegetables. In one corner they planted some strawberries and along the fence some raspberry plants.

Jack also lived in the country. He wanted to have fresh eggs all winter. "Why don't you ask Uncle Don how he takes care of his chickens? He has twenty-five hens and they lay well all winter," his father said.

Uncle Don told Bill he did two things. First, he fed the chickens two ears of yellow corn in the morning and three ears each at night, and he gave them a gallon of skim milk each day. And second, he built a comfortable home for them. The nests had clean, soft straw in them.

The yard was covered with green grass for the chickens to eat.

"Thanks, Uncle Don," Jack said, "for showing me how you take care of your chickens. I'll make mine happy, too, and maybe they will lay eggs all winter like yours."

These are only a few of the ways boys and girls can help their families get the food they need.

On the Lookout for Clean Food

One summer Bob and Jerry went on a five-day bicycle trip. When mealtime came, they would look for a place that sold good, clean food.

One warm day they thought they would never get any lunch. At the first eating place they saw, the sandwiches and cakes were uncovered. Flies were all over the dishes and the food.

"Food for flies is not food for me," said Bob.

The next food stand kept all the food covered. No flies could get on that food. But Jerry saw that the glasses and dishes were washed in a pan of dirty, warm water. "Milk in those glasses wouldn't taste good to me," he said. Bob agreed with him.

The man at the next food shop was coughing and sneezing as he made the sandwiches. "I don't want those sandwiches, do you, Bob?" Jerry asked.

"No," said Bob, "even though I'm starved."

"I tell you what," said Jerry a little later, as they came in sight of a village store, "let's make our own lunch. Then we can be sure it's clean."

They bought a box of graham crackers, a well-wrapped package of cream cheese, two bananas, and a bottle of grape juice. They had a bottle opener and clean cups in their lunch kit.

Soon they came to a pleasant shady spot away from the road.

"This place was worth waiting for," said Jerry. "No flies, no dust, no dirty dishes! We can't take a chance on eating food that is not clean."

Never take a chance on eating food that is not clean. Be careful not to buy these foods:

Milk that has not been pasteurized.

Food handled by persons who are dirty.

Any food left open to flies, mice, or rats.

Meat and milk that have not been kept cold.

Meat like ham, sausage, and "hot dogs" that has not been thoroughly cooked.

Left over cream cakes or custard pies.

You know that we all have germs in our mouths and that these germs may be spread to others on drinking glasses, dishes, forks, and spoons that are not properly washed. Many people eat in tea rooms

and restaurants. That gives many chances for germs to spread. Health officers should be sure that owners of restaurants follow these rules:

1. Wash dirty dishes in plenty of hot, soapy water and rinse them in boiling water.
2. Keep food cold and covered.
3. Have warm water, soap, and clean hand towels and see that everyone who handles food uses them.

The same rules apply to the care of food in our own homes.

Food spoils quickly if it is not kept cold. If certain bacteria get into food, they may grow and make poisons.

You cannot always tell by the taste whether food is fit to eat. In one town a number of people suddenly became sick. Some people thought it was meat that had caused the trouble. One person said the meat did not look spoiled or smell spoiled. He was so sure the meat was safe to eat that he ate some of it himself. He, too, became ill.

Milk, meat, butter, and cooked foods should be kept in the coldest part of the ice box. Electric or gas refrigerators keep all foods about equally cold.

Frozen foods should be kept frozen until you are ready to cook them.

Give a Play: “Why Did Jean Change?”

(Scene I. Jean's mother and Aunt Annie are in kitchen talking.)

MOTHER: Jean eats like a bird. She just picks at her food. I coax her or scold her, but still she doesn't eat as she should.

AUNT ANNIE: Jean looks the picture of health to me. Her lips and cheeks have good color in them. Her eyes are bright. Her muscles are firm. She doesn't seem tired or over-excited.

MOTHER: But her brother Bill is so husky. I never had any trouble about his eating.

AUNT ANNIE: Children are different. They don't all need the same amount of food. Bill is big like his father and needs more food than Jean. Jean is built small, like you and me.

MOTHER: But still I'm sure she doesn't eat enough.

AUNT ANNIE: It seems to me that Jean enjoys being the center of attention at mealtime. When you scold her and her father becomes angry, it is exciting, in a way.

MOTHER: Well, what would *you* do about it?

AUNT ANNIE: I think I know how to make Jean stop fussing at mealtime and eat as much food as she needs.

MOTHER: Really! How?

AUNT ANNIE: Will you do three things and see what happens?

MOTHER: All right. What are they?

AUNT ANNIE: First, give Jean the food she likes if it is just as good for her as the food she does not like. She does not like oatmeal, so for a change give her toasted brown bread in hot milk and butter. And sometimes give her bananas and cream, which she likes so much better than cereal and cream.

MOTHER: That will be easy to do. What is next?

AUNT ANNIE: The second thing is, pay no attention to what Jean eats at mealtime. Talk about other things and have a jolly time. And third, when you all have finished eating, take away Jean's plate, too. Take it away whether she has eaten much, little, or nothing. And don't give her anything else to eat until the next meal.

MOTHER: But I'm afraid Jean will starve if I don't make her eat.

AUNT ANNIE: (*laughing*) I've never heard of any bright, healthy child like Jean letting herself starve. I've seen more harm done by fussing over food at every meal.

MOTHER: Very well. I'll do these three things and see what happens.

(Scene II. Supper that evening. Father, Mother, Aunt Annie, Jean, and Bill are at the table eating. Jean picks at her food as usual and eats very little of it, but no one seems to notice it. No one coaxes; no one scolds.)

FATHER: What do you suppose came into my office this morning? A monkey! You know Mr. White. He had just got back from India and brought a pet monkey with him.

MOTHER: Of all things!

BILL: Did the monkey do any tricks?

FATHER: (*laughing*) He climbed to the top of my coat closet and put on my hat!

JEAN: (*laughing*) He must have looked very funny.

(Father tells more about the monkey and they all tell about something interesting or funny. At the end of the meal Mother takes away all the plates.)

(Scene III. Breakfast the next morning. Jean eats a large dish of bananas and creamy milk. This is Jean's favorite breakfast and she eats all of it.)

(Scene IV. Lunch time. Jean and Bill and Aunt Annie are at the table. Jean is finishing a bowl of green-pea soup.)

JEAN: Tell us another of your stories, Aunt Annie.

BILL: Yes, Aunt Annie, while we are eating the fruit salad and crackers.

AUNT ANNIE: Did I tell the sad story of Benji?

JEAN: No. Please tell us.

AUNT ANNIE: The bear met Benji.

The bear et Benji.

The bear was bulgy.

The bulge was Benji.

BILL: Oh, ho! I'm going to tell that one to the boys.

AUNT ANNIE: Now run along to school. Not really run, of course. You have plenty of time to get back to school without hurrying.

(*Scene V. One month later. Jean is helping Aunt Annie wipe the dishes.*)

JEAN: You know, Aunt Annie, I used to fuss about eating. But now no one tries to make me eat. And when it's up to you to eat, you just eat.

AUNT ANNIE: (*smiles and nods her head*) I see.

After the play, talk about such questions as:

Do you know any children who are fussy about food? What do you think are the reasons?

What are some good habits of eating?

What makes a meal healthful and happy?

Give this play at a parents' meeting.

Which Is Right?

- When the children in the experiment were given milk to drink, they began to weigh:
more. less.
 - Scurvy can be cured by eating:
salt pork. lemon juice.
 - The children's sore red eyes were cured by eating:
skim milk. butter.
 - The most important "protective" foods are:
bread, meat, sugar.
leafy vegetables, citrus fruits, milk.
 - The body needs:
lots and lots of certain foods like milk.
the right amount of all the important foods.

Things to Think About and Do Something About

1. Is it true that the more food you eat, the more energy you will have? Give reasons for your answers.
 2. Why has some soil become "worn out"? How can such poor soil be made good again? (A 4-H Club leader, teacher, or good farmer can tell you.)
 3. If you live in the country and children in your family are not as big and strong as they should be, which of these things can you do?
 - a. Learn to raise chickens so that everyone in the family can have an egg every other day.
 - b. Help earn money to buy a goat so that the children will have fresh milk every day.
 - c. Help plant a vegetable garden.

UNIT VI

Foods You Need Every Day

Now you know why food is so important. What foods do you need every day?

"There are no magic foods." There are no foods "just for muscles" or "just for nerves." For the best health, you need some food from each of the seven basic groups. You have learned about them before. Do you remember what they are?

Now is your chance to learn more about the foods in these seven groups. Here are some facts that may be new to you and your family. Knowing these facts will help you want to have all of these foods in your daily meals.





Food should be stored as soon as it is brought from the market.

The Food Team

You can think of the seven kinds of food as a team, all working together. This is the team:

Green and yellow vegetables.

Citrus fruits, raw cabbage, salad greens.

Potatoes and other vegetables and fruits.

Milk and milk products.

Meat, poultry, fish, and eggs.

Bread, flour, and cereals.

Butter and vitamin A margarine.

As you have just learned, this all-star food team supplies you with:

a. fuel to keep you warm and give you power to work and play.

b. building materials to help you grow in your own best way and to repair the body cells that you are wearing out all the time.

c. other things to keep your body machine running like a watch and to help you keep well.

No one food can do all this. Green vegetables alone, carrots alone, whole-wheat bread alone, or oranges, eggs, or even milk alone will not meet all your body's needs.

Some people think that all they have to do to be healthy is to eat lots of food. How would you end this sentence: To be healthy, eat—?

Vegetables and Fruits

Not all vegetables and fruits are alike. Each gives the body different things it needs. They should be divided into three groups:

Group 1: Green and yellow vegetables. They may be raw or cooked. They may be fresh, frozen, or canned. They are very rich in vitamin A. Vegetables with dark green leaves are rich in iron. Most of these vegetables supply calcium, too.

Group 2: Oranges, tomatoes, grapefruit. Raw cabbage and salad greens also belong in this group. These are rich in vitamin C.

Group 3: Potatoes and other vegetables and fruits. Potatoes are a good source of iron and vitamins. They are quite cheap and most people always have potatoes for dinner. Yellow fruits such as apricots and peaches are rich in vitamin A. Other fruits, too, supply iron and vitamins. Dried fruits like raisins and prunes are rich in iron.

Vegetables and Fruits Make a Difference

Experiments have shown that you need vegetables to look your best and feel your best. After the children in one school had done experiment II (page 102), they began to eat more green vegetables.



Here are some good vegetables which should be in your diet.
Which ones can you name?

Experiment I. In parts of India the people eat nothing much but cereals. These people are in poor health. But other people in the same country who eat large amounts of the green leaves of plants in addition to the cereal are in much better health.

Experiment II. Guinea pigs were fed alfalfa meal and oats. Within two weeks they lost weight and became sick with scurvy, just like the sailors long ago. When they were given orange juice and green vegetables, they got well.

Experiment III. All the children in one school were eating about the same kind of meals. They had plenty of meat, potatoes, bread, and butter. Some of these children were given an extra yellow vegetable or a green vegetable every day. These children grew better and felt better than those who did not have the green and yellow vegetables.

Which Are Richest in Vitamins A and C?

Experiment IV. Scientists know how to find out just how much of each vitamin is in our foods. They have measures for the amount of vitamins just as we have measures of length such as feet and inches, or measures of volume such as pints and quarts. Vitamin A is measured in International Units (I.U.), vitamin C in milligrams (mg.).

Here are the number of I.U.'s of vitamin A in one serving (that is, the amount one person would eat in a meal) of a few foods:

Apples, raw	120 I.U.
Apricots, raw	2400 I.U.
Green beans, cooked	830 I.U.
Beet greens, cooked	10790 I.U.
Butter (1 tablespoonful)	580 I.U.
Carrots, raw	14400 I.U.
Chard, cooked	4510 I.U.
Liver, beef, cooked	30330 I.U.
Milk, whole	490 I.U.
Peaches, raw	1480 I.U.
Potatoes, cooked	35 I.U.

Which vegetables and fruit are richest in vitamin A? How do they compare with some other foods?

The following list gives the number of mgs. of vitamin C in one serving of a few foods:

Apples, raw	3 mg.
Green beans, cooked	14 mg.
Butter (1 tablespoon)	0 mg.
Carrots, raw	7 mg.
Milk	4 mg.
Orange or grapefruit	85 mg.
Cabbage, raw, $\frac{3}{4}$ cup	50 mg.



Which vegetables and fruit in the list at the bottom of page 103 are richest in vitamin C? How do they compare with other foods? You cannot compare the amounts of these vitamins because I.U.'s and mgs. are different kinds of measures.

Vegetables and Fruits for Everyone

Everyone can have enough fruit and vegetables. If you live in the country you can have a parade of vegetables all through the year. Which vegetables and fruits get ripe in the spring? In the

summer? In the fall? Which vegetables and fruit keep through the winter?

Country people, who have more vegetables and fruit in the spring and summer than they can use, can save them for the winter. Here is a sentence that tells you what to do with all kinds of fresh fruit and vegetables:

“Eat what you can, and what you can’t eat, can or quick-freeze.” Quick-freezing is taking the place of canning in many homes.

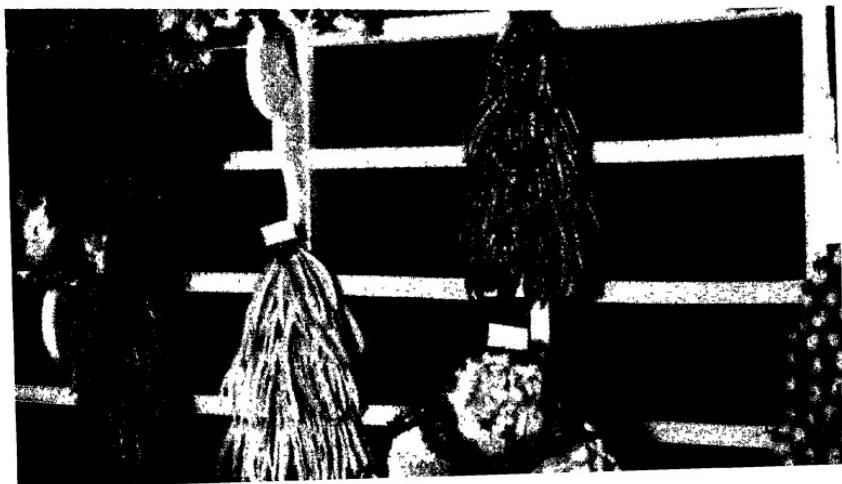
Vegetables and fruits properly canned or frozen are just as good as freshly cooked vegetables in many ways. They have just as much iron and other minerals and most of their vitamin A. Fruit and juice canned or frozen with a little sugar are better than jellies and jams. Do you know why?

People can buy fresh vegetables all year in city and village stores. In the markets of one large city, fresh fruits and vegetables come from at least forty-two states and fifteen other countries. Tomatoes in December come from California; in January and February from Cuba; from March until June from Florida; and during the summer months from many other states. Lettuce, spinach, and other fresh vegetables are sent from warm, sunny lands to cold, wintry towns and cities.

How to Cook Vegetables

Well-cooked vegetables have that fresh garden look and taste. Very little of the vitamins and minerals is lost. This is how to do it:

1. Pick them when the sun is shining on them.
 2. Use them as soon as they come from the market or garden.
 3. Wash them quickly and well in a large pan of clean water; never let them soak in water.
 4. Put them in just enough boiling, slightly salted water to cover them; never add soda.
 5. Boil them quickly until they are tender; never cook them longer than necessary.
 6. Bake or steam vegetables such as potatoes, onions, and carrots instead of always boiling them.
 7. If any water is left on the vegetables after they have been cooked, use it for soup or sauce.
- If anyone in your family does not like vegetables, cook them in these ways. He will like them.



Milk Makes a Difference

Do you know how many quarts of milk were sold in the United States in one year? The answer is twenty-seven billion quarts.

Why is milk such an important food? Can milk really make a difference in your health, strength, and growth? Read about these experiments with children and animals. Then answer those questions.

Experiment I. In a home for children there were eighty-four children. Almost all of them were in poor health. This seemed queer, because they lived in clean pleasant rooms and played out of doors in the woods and fields. For breakfast they had cereal with a little milk, and for other meals they had beef soup, cereals or bread, and one vegetable —potatoes, carrots, onions, beets, or cabbage. Sometimes they had apples and bananas.

Why were these children sickly? A scientist said he would try to find out. He studied their diet, that is, the food they ate. He found they were getting very little milk.

To find out whether milk would make a difference, he divided the children into two groups. One group ate the same kind of food they had been having. The other group ate the same kind of food plus a quart of milk a day.

Did milk make a difference? This is what records of the children's growth showed: Their weight increased when a quart of milk was added to their diet. At the beginning of the experiment one five-year-old child was very thin. He weighed only twenty-eight pounds. At the end of the year he weighed fifty-three pounds. Several children who did not gain at all on the diet of cereal, beef soup, and vegetables made large gains when a quart of milk was added to their other food. When later the milk was taken out of their diet, they did not make these large gains. The group that had a quart of milk every day became more lively as well as heavier.

Experiment II. This experiment was made in a boys' school in England. These boys lived together and had the same diet. They were divided into four groups:

- Group 1. No change was made in the diet.
- Group 2. A pint of milk was added to the regular diet.
- Group 3. An extra piece of butter was added to the regular diet.
- Group 4. Some watercress—a green vegetable—was added to their regular diet.

In a year these were the gains in weight:

The boys having only the regular diet gained, on the average, 4 pounds.

The boys having the extra pint of milk gained, on the average, 7 pounds.

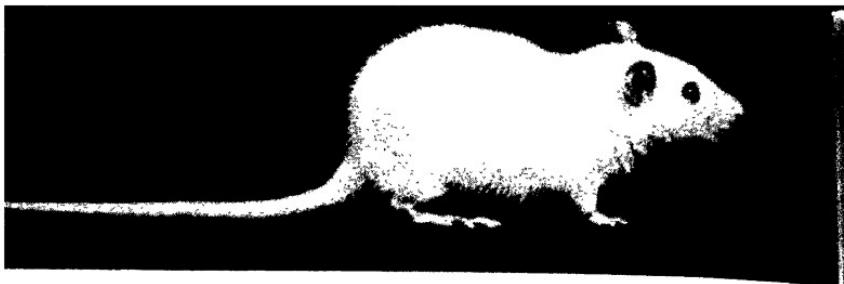
The boys having the extra butter gained, on the average, 6½ pounds.

The boys with the extra watercress gained, on the average, 5½ pounds.

What does this experiment tell you about the difference in growth that milk, butter, and watercress make?

Experiment III. The third experiment was made with white rats. One family of rats was given a diet of one part whole-milk powder to five parts ground whole wheat. That would be like a diet of bread and milk for you—a great deal of bread and a small amount of milk. The second family of the same age was given more milk. They had one part whole-milk powder to two parts whole wheat. The only difference between the two diets was in the amount of milk.

The first family of rats grew well. Their children and grandchildren grew as big as white rats usually grow. They were healthy and lived as long as white rats usually live.



What diet do you think this little rat had?



What diet do you think this larger rat had?

But the second family, which had twice as much milk as the first, grew bigger, lived longer, and had more children. Their bones were stronger and better formed, as well as bigger. The larger amount of milk made the difference. Children grow in much the same way.

What answer can you give to this question: Can milk make a difference in the growth of children and animals? Of course, weight is only one sign of health. But for children who are eating too little of the right kind of food, gain in weight and better health go together.

TAKING MILK APART

What makes milk an important food? What is milk? Can you separate it into its different parts?

Look at the bottle of milk that has been standing in a cold place. The top part is cream color, the lower part is white! The top part, which is the cream, can be skimmed off. This separates the milk into two parts: (cream and skim milk.)

Beat the cream with an egg beater. Soon you will have whipped cream. Beat it longer and you will get butter. (Butter fat is rich in vitamin A.) It is good fuel, too, and helps to keep us from being hungry between meals.

Now let the skim milk get sour. Then heat it, not quite to boiling. Strain it through a thin cloth. In the cloth you will find the curds from which cottage cheese or cream cheese is made. This is mostly protein, a very important muscle-building food. The watery part that comes through the cloth is the whey.

Even this watery part has food which the body needs. It contains some sugar, minerals, and certain kinds of vitamins. Farmers do not throw away the whey after they have made cheese from the skim milk. They feed the whey to chickens, hogs, and other farm animals.



One method used in separating the curd from the whey.

So far you have got from milk cream, whipped cream, butter, skim milk, and curds which can be made into cottage cheese and cream cheese. Many other kinds of cheese are made from milk.

Now if the whey is boiled you will find other important things in milk. After all of the water in the whey has gone off in steam you will have a whitish powder or ash left. That is the minerals in milk. A large part of this mineral ash is calcium.

Milk and cheese are rich in calcium and phosphorus. A quart of milk supplies all the calcium

a child needs in a day. Using milk is the easiest way to get the calcium you need.

But if you want to get iron or iodine or vitamin C, you will not find much of it in milk. To get these other minerals and vitamins, you will have to eat other foods. Which foods supply iron? Which foods supply vitamin C?

KINDS OF MILK FOR SALE

You can buy many kinds of milk at different prices. The most expensive milk is certified milk. It is fresh from healthy cows. The cows and the men who milk them have to pass health tests. This is to make sure that they do not have any disease germs that might get into the milk. After the cows are milked the workers take special care to keep the milk clean, cold, and covered. Some mothers buy certified milk for their babies and small children.

But mothers need not buy certified milk for their babies. Milk can be made safe by being pasteurized. And pasteurized milk is cheaper and safer.

In most places *Grade A Milk* is sold. Grade A milk comes from clean healthy cows, milked by clean, healthy workers. It is good whole milk that has been pasteurized.

Homogenized Milk has been put through a machine that mixes the fat so well with the rest of the milk that the cream does not rise to the top. Why would people want to buy homogenized milk?

Vitamin D Milk is milk which has more vitamin D in it than ordinary milk, because extra vitamin D has been added.

Evaporated Milk is made by heating whole milk until some, but not all, of the water has gone off in steam. A tall 14½ ounce can of evaporated milk may be used in place of one quart of fresh milk and usually costs less.



Dried Milk has had all the water taken from it. Dried milk is light to carry and keeps a long time. That is why explorers, soldiers, and campers often use it. Adding water to four and a half ounces of dried whole milk (about $1\frac{1}{4}$ cups) makes one quart of milk.

Condensed Milk is sweetened evaporated milk. Sugar is added to fresh milk and then most of the water is evaporated. Condensed milk has too much sugar in it to be used in place of fresh milk.

Chocolate Milk is milk flavored with chocolate and sweetened with sugar. Often skim milk is used instead of whole milk; then it does not have the same food value as whole milk. You are much wiser to choose fresh whole milk.

Buttermilk is “butterless milk.” Buttermilk is left after butter has been made out of sour cream. Some buttermilk you buy may be made in other ways. See what you can find out by reading the tops of bottles of buttermilk.

Concentrated Milk is made by evaporating two-thirds of the water from whole milk at a low temperature, around 120° to 140° . Then the milk does not lose its fresh flavor. If you were given two glasses of milk, one right from the cow, the other the concentrated milk with some water added,

you would not be able to tell the difference between them. Concentrated milk looks like cream. It is easier for you to carry home. It is easier to deliver; one truck can carry as much milk as three trucks could carry. The concentrated milk keeps at least twice as long. And it is cheaper.

Fat-Free Milk is whole milk from which the butter fat has been taken away. Fat people who want to lose weight buy this kind of milk.



Vitamin-D Milk has extra vitamin D added.
If you had very little money to spend for food,
what kind of milk would you buy? Why?

WAYS OF USING MILK

Milk may be used in many ways. It may be used in rice pudding, cream of vegetable soups, custard, and many other dishes. Name as many ways of using milk as you can.

Butter and Vitamin-A Margarine

When you go to the store, you will see butter and margarine. Which shall you buy? Both are fats. Both are fuel foods. Both give more energy per pound than any other food.

Butter is rich in vitamin A.

Margarine is made largely or entirely from vegetable oils such as coconut and cottonseed oil. These oils do not contain vitamin A. But vitamin A can be added. When the margarine is enriched, or fortified, with vitamin A, it can be used in place of butter. Find out the difference in price between a pound of butter and a pound of vitamin-A margarine.

Before you buy margarine, look at the box and see if it has been fortified with vitamin A.

Bread and Cereals

When you come home hungry after school why do you often choose crackers and milk to eat?

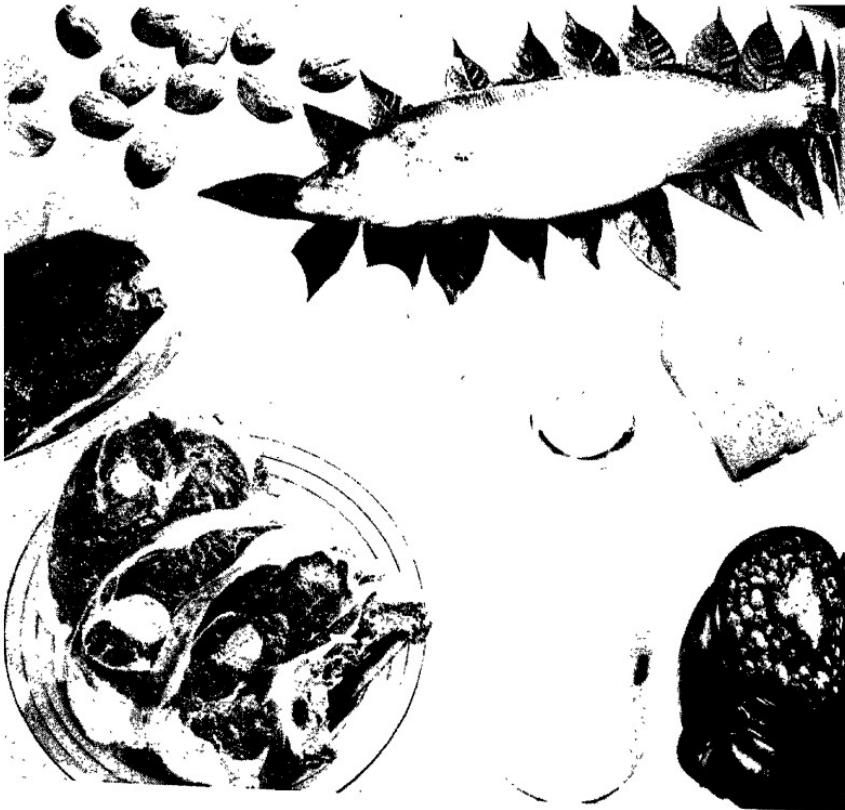
Bread or cereal and milk are a good team. Milk supplies what bread and cereals lack. Bread and cereals have little calcium, but milk is very rich in calcium. Bread and milk or cereal and milk go well together. They build the foundation for a good diet. That is why so many good meals have milk toast, crackers and milk, or cereal and milk in them.

An Experiment. Mix a teaspoonful of cornstarch with $\frac{1}{4}$ cup of cold water and boil it. Add a drop of iodine. The boiled starch will turn a bright blue. That is the test for starch in any food. Test several kinds of bread, crackers, and cereal in the same way. Do you find starch in them all?

Almost everyone thinks of bread and cereals as starchy food. They are rich in starch. They are good food for fuel.

But the brown whole-grain bread, flour, and cereal are rich in body-building material, too. They are rich in phosphorus and iron and the vitamins called *B*. White bread can be enriched by putting back some of the minerals and vitamins of the whole grain. Enriched flour, cornmeal, and





bread make it possible for everyone to enjoy white bread and still have the iron and vitamin B they need.

Bread and cereals are among our cheapest foods. We spend about one fifth of our food money for cereals and bread but we get from them almost two fifths of the total energy and total protein we need for the day. One man on a wheat farm with up-to-date farm machines will produce with one day's work enough cereal food for one person for a year.

Meat, Fowl, Fish, Eggs

When you go to a restaurant, you often see meat, fish, chicken, eggs, and baked beans on the menu. But you would never choose them all for one meal. One serving of any of these foods each day is enough. They are all rich in protein, iron, phosphorus, and certain vitamins.

Meat and fish are much alike in food value. That is why fish can be used in place of meat. Fish is usually cheaper than meat. If you live near the ocean or a lake or river, you can go fishing and catch fish yourself. |Fish from the ocean is much richer in iodine than meat.| You know how important a little iodine is for health. If you live where it is hard to get iodine, the doctor may tell you to use salt that has iodine in it.

Eggs can also be used in place of meat, part of the time, for lunch or dinner. If your mother asks, "How many eggs should I buy a week for each person in my family?" a good answer is, "About four eggs a week."

Yolk of egg is very rich in iron and vitamin A.
White of egg is practically pure protein. |

Perhaps you have heard people say that brown eggs are better than white eggs. That is not true. The color of the shell makes no difference in the

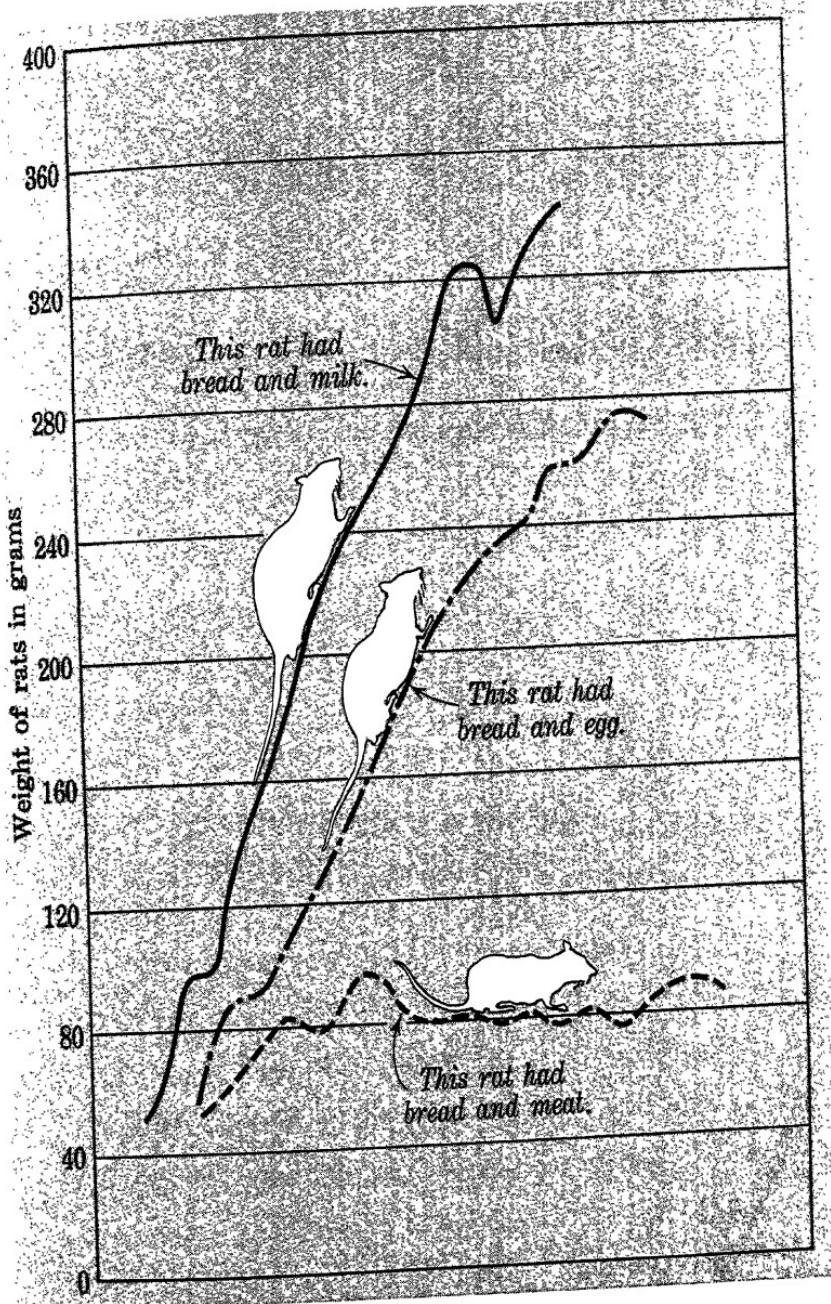
food value of the egg. But the food chickens eat and the way they live does make a difference.

Eggs from chickens that eat green grass and live out in the sunshine have more vitamin A. In fact, eggs laid in the summer have more than twice as much vitamin A as eggs laid in cold, dark winter weather. Eggs add to the diet some of the iron that is lacking in milk.

Most people in our country eat enough meat. They like the taste of it. And meat does have a place in the day's meals. But which is better for growing children, meat or milk?

An Experiment. You know rats and children are a good deal alike in the way they grow. But rats grow faster than children. Three or four weeks in the lifetime of a rat is about equal to two years in the life of a child. Scientists do experiments with animals to learn more about children's growth and health. Some white rats of the same age and size were put on a diet of whole wheat and whole milk when they were quite young. Some of them were put on a diet of bread and meat; others ate bread and egg.

For a few weeks all the rats grew well. Then a change took place. The rats living on bread and meat began to look different from their brothers



Lines of growth for different diets

and sisters. They were smaller because they had stopped growing. Their fur was rough. Later their legs became so bent that they could hardly walk. But the rats that had plenty of bread and milk grew big and lively. Their eyes were bright. Their fur was smooth and shiny. The rat living on bread and egg grew almost as well.

Look at the growth curves on page 123. Which foods are best for growing animals?

Meat has a place in the day's diet because:

1. It supplies a kind of protein needed for the growth and repair of body cells.
2. It supplies two important vitamins.
3. It supplies iron. Liver is very rich in iron and vitamin A.
4. Meat is appetizing, as you know if you have cooked steak over an open fire.
5. Chewing meat gives exercise to the teeth and gums.

But you should be careful that meat does not crowd out milk, eggs, and vegetables. These foods supply calcium and vitamins which meat lacks. And meat usually costs more than other foods that supply about the same food value.

These are things to think about when you buy the day's food or choose a meal at a restaurant.

What About Sweets?

Sugar is *not* one of the seven foods we need every day. In some parts of the world many people have never seen white sugar or eaten candy or cake made with it. Our great-great-grandmothers used only about ten pounds of white sugar during a year. Now each person in the United States uses, on the average, 93 pounds.

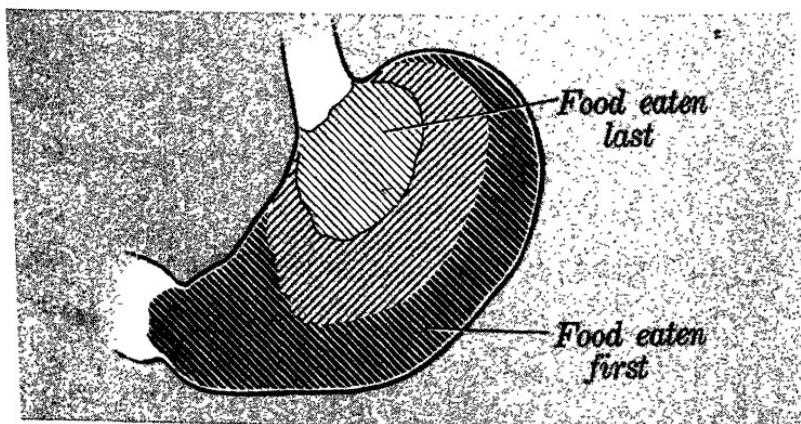
Before white men came to America, the Indians ate natural sweets, such as wild fruits. Many Indian tribes had perfect teeth. When they changed from their simple diet to a diet of meat, white flour, syrup, and white sugar, their teeth became badly decayed.

In Iceland before 1850, the people were in excellent health. They hardly ever had decayed teeth. What happened in 1850? In 1850 they began to buy coffee, candy, sugar, tobacco, beer, wine, and flour from other countries. Now the people of Iceland have poor teeth. Many of their children have weak and crooked bones. This would not have happened if they had kept on eating the natural foods of their country.

There is only one good thing that can be said about white sugar: it supplies energy cheaply. But all the other foods supply some energy, too.

On the other hand, there are many ways in which sugar is bad for you:

1. Sugar does not help children to grow as well as natural sweets do. It has no minerals, vitamins, or protein. Molasses and sorghum syrup, dates, raisins, and figs are better; they supply iron and calcium.
2. Candy and cake between meals may take away your appetite for milk, cereals, vegetables, and fruit. Sweets crowd out the seven basic foods.
3. If taken in large amounts, sweets are likely to ferment in the stomach. Perhaps you have seen this happen in a jar of fruit. Bubbles form in it. It tastes sour instead of sweet. Something like that can happen in your stomach. Some people have a "sour stomach" or "gas in their stomach" if they eat many sweets.





4. Has the inside of your mouth ever become sore from sucking hard candy? In the same way candy and other very sweet foods eaten on an empty stomach may make the lining of the stomach sore. The drawing on the opposite page shows how sweets eaten first would be right against the lining of the stomach.

When do you have a chance to choose between fruit or other natural sweets and candy or cake or drinks made with sugar? Which is better at recess? Which is better after school?

Now you can buy at almost all candy stores and drug stores many delicious fresh-fruit drinks. You can get fresh orange, pineapple, and other fruit juices, prepared to your order.

Even though your friends still usually buy sodas and other soft drinks, you can help set a new style by buying fresh-fruit and milk drinks. If a few popular boys and girls do it too, then it will become "the thing to do."

Food Riddles

I am a mineral.

I help build bones and teeth.

I am found in large amounts in milk.

What am I?

I am white.

I have only one food value.

I steal away your appetite for other foods.

I can make teeth decay more quickly.

What am I?

Some people eat a great deal of me.

Some people never eat me.

I supply iron, but little calcium.

I am not so cheap as milk.

What am I?

Give a Play: "Smart Choices"

(On one side of the room is a sign that says: "Good for You." On the other side is a sign that says: "Not so good." The children will come to the center, talk, go in back of one sign or the other. They carry pictures of their choices.)

JACKIE: One time I could have a pear or a cookie.

JUDGE: Which did you choose?

JACKIE: The pear. (*He holds up his picture.*)

JUDGE: Good for you! (*Jackie goes over and stands in back of the sign "Good for You."*)

SUSAN: One time there was an apple and some candy on the table. Mother said if I wanted to be healthy, I would eat the apple.

JUDGE: Which did you choose?

SUSAN: The apple.

JUDGE: Good for you.

ANN: I had to choose between ice cream and cake.

JUDGE: Which did you choose?

ANN: I took ice cream because it has milk in it. It tastes good and is good for you.

JUDGE: Good for you.

DANNY: One day I had some money left over from my lunch. I had to decide between two things: to buy candy or take the money home. Mother had told me not to eat candy between meals.

JUDGE: What did you do?

DANNY: I brought the money home.

JUDGE: Good for you.

JO: One day after school Mother told me I could have a pear or a slice of mince pie.

JUDGE: Which did you choose?

JO: The mince pie.

JUDGE: Not so good!

ELLEN: I went to a friend's house after school and she had fruit and cake with thick chocolate icing to eat.

JUDGE: Which did you choose?

ELLEN: I ate the cake.

JUDGE: Not good at all!

TED: For breakfast we had coffee or milk.

JUDGE: Which did you choose?

TED: Coffee.

JUDGE: Not at all good!

JANE: One day Mother said, "What do you want for lunch—a green vegetable and egg or meat and rice?"

JUDGE: Which did you choose?

JANE: The green vegetable and egg, because I'd have meat for dinner. I know that I don't need meat more than once a day.

JUDGE: Good for you!

After the play talk about: Times you made a smart choice and why you did it.

What can your mother do to make it easier for you to choose good foods?

What can the school do?

A Matching Game

Match these words with words on the right-hand side that finish the sentence. Then write the correct sentences in your health notebook. (Do not write in this book.)

- | | |
|--------------------------------|--|
| 1. A diet | is milk from which water has been evaporated and sugar added. |
| 2. Evaporated milk | are citrus fruits. |
| 3. Condensed milk | is everything a person eats or drinks during a day. |
| 4. Green vegetables | may cause "sour stomach." |
| 5. Oranges, lemons, grapefruit | can learn to like all the kinds of food their body needs. |
| 6. Swiss chard | is milk from which water has been taken away and nothing else added. |
| 7. Sugar in large amounts | is a green-leaf vegetable. |
| 8. Most people | are rich in iron. |

What Would You Say or Do?

1. If your mother said, "I haven't enough money to buy a quart of milk a day for each of you children."

2. If your father said, "We could have a garden. Our yard is sunny and has good soil. But it would be a lot of work. We'd have to carry away the sticks and big stones first of all. Then we'd have to work in it every day."
3. If you had money to spend at recess or after school?
4. If you wanted to eat any vegetable or fruit raw?
5. If you wanted to buy and take care of a goat that would give milk for the family?
6. If you had to get lunch for your family?

Things to Do

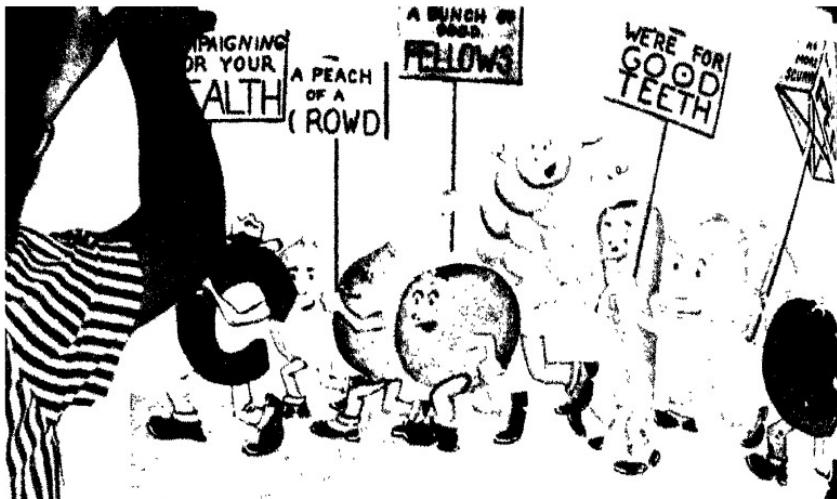
1. Give the play, "Smart Choices," for your parents at home or for a group of parents in school.
2. Help make an exhibit of milk and milk products and ways in which milk can be used. You can bring the empty bottles or boxes or use pictures from magazines.
3. Make your own eating rules and then answer truly. Ask yourself: Do I do this—always, often, seldom, or never? On pages 258 to 259 you will find a list of health habits. Choose the ones most important to you and begin trying to answer "always" to each of them.
4. Find in a cook book or magazine recipes for fruit salad. Tell your mother about them. Ask her if you may make one for the family.
5. Find out what you pay for one pound of milk, eggs, bread, beefsteak, chicken, butter, and vitamin A margarine. (A pint of milk weighs about a pound; eight eggs weigh about a pound.) Write the names of these in order, putting the cheapest at the top of the list.

UNIT VII

Let's Plan Our Meals

When you were small, your mother gave you the food you needed. All you had to do was to eat it. Now you are more on your own. You have many chances to choose your own food. Do you know enough now to make good choices of food?





C

SOME FOODS OFFER LARGE GIFTS
CALCIUM • OTHERS HAVE
NONE TO GIVE



Keep a record of the vitamin and calcium content of the food you eat in one day.

Three Meals A Day

Savages eat whenever they can get food. Few people in England two thousand years ago had more than two meals a day. In our country most people have three meals a day.

There are some good reasons for having three meals a day:

1. You won't eat too much at one time and make your stomach feel uncomfortably full.
2. Most of the food from the last meal will have left the stomach and you will begin to feel hungry by the next mealtime.
3. It is easier for mothers to have meals at regular times than to give each person food whenever he feels hungry.
4. The stomach gets used to regular meal times and is ready for food at those times.

Planning Prize Meals

It is fun for you to help your mother plan meals and to choose your own food when you eat out.

A good measuring stick or guide to planning meals for the day is the seven food groups. If your day's meals have some food from each of the seven groups—and no tea or coffee—they will be good meals. They will perhaps be prize meals.



A PRIZE BREAKFAST

A prize breakfast is built of these foods:

1. Milk: in what ways may the milk be used?
2. Cereal or bread or both. What kind of hot cereal can you have? What kind of ready-to-eat cereal? Whole-grain cereal and bread are best.
3. Fruit if possible. What kind of fresh, cooked, dried, canned, or frozen fruit can you have? There are many to choose from.

4. An egg, if you do not have it at noon or for supper. How may it be cooked?

A prize breakfast does not have in it foods that are very fatty or sweet or soggy, such as fried foods, gravy, syrup, and soft, hot biscuits.

You will not find coffee or tea in a prize breakfast. Coffee is not good for children. It is over-stimulating. Coffee is not a food at all—without the cream and sugar in it, it has no food value.

Now study these breakfasts that boys and girls ate one morning. Which of them do you think should be given first prize? Which can be made better? How would you change the poor breakfasts to good ones?

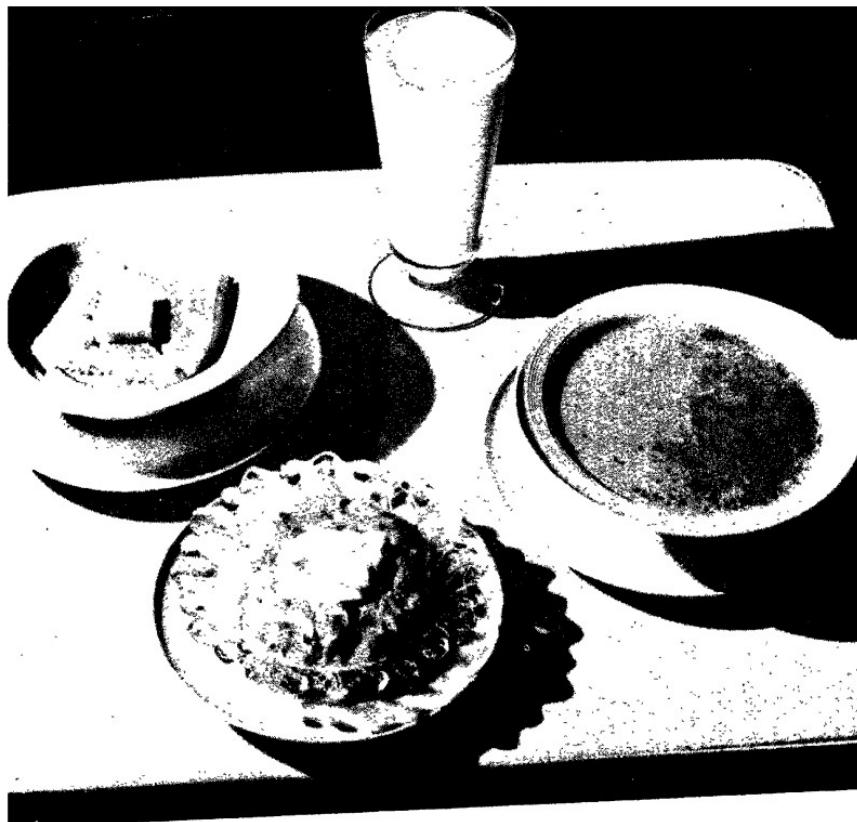
- | | |
|--|---|
| 1. Whole-wheat cereal
and milk | 4. Oatmeal and milk
Buns and butter |
| Soft-boiled egg and
toast | Cup of cocoa |
| Cup of hot milk | 5. An orange or half
grapefruit |
| 2. Cup of coffee
Rolls and butter | Hot whole-wheat
cereal with milk or
cream |
| 3. Whole-wheat milk
toast with vita-
min-A margarine | Toast and an egg
Glass of milk |



A PRIZE LUNCH OR SUPPER

In a prize lunch or supper you will find food from these groups:

1. Milk: a glass of milk to drink; milk soup; milk toast; a simple pudding made with milk, such as custard, junket, or rice pudding.
2. Vegetables and fruit: all kinds of vegetables may be served as soup or salad. They may be creamed or just served with butter. Fruits may be used in salads or just washed very well and eaten plain.
3. Meat, cheese, eggs, peanut butter, or baked beans.



4. Bread or cereal—whole-grain or enriched.

5. Butter, cream, or vitamin-A margarine.

Look at these lunches that boys and girls had at noon. Which of them do you think should be given first prize? How would you make the poor meals better? Tell why you made the changes.

- | | |
|-------------------|----------------------------|
| 1. Cocoa and buns | 3. Roast beef and potatoes |
| Chocolate cake | Apple pie |

- | | |
|--------------------|--------------------|
| 2. Vegetable salad | 4. Meat sandwiches |
| Bread and butter | A "soft" drink |

- | | |
|--------------------|--|
| 5. Egg sandwiches | 7. Baked potatoes with
Fresh fruit butter |
| 6. Cereal and milk | Lettuce and tomato salad |
| Apple sauce | Cup custard |

To which lunch did you give first prize? No. 7 is excellent; it has milk and egg in the custard, cooked and raw vegetables, and no food that is too sweet or fatty or over-stimulating. Lunches 2, 5, and 6 are all simple healthful meals. A bowl of thick vegetable soup in place of the salad would make No. 2 a good lunch for cold days.

No. 1 has too much chocolate. No. 4 is a poor lunch. It has no milk, vegetables, fruit, or eggs.

Vegetables and fruit for lunch. Name them.





Substitutes for meat. Name them.

A PRIZE DINNER

At dinner the family is usually together. Some families have dinner at noon; other families have dinner at night.

If dinner is the last meal in the day, you can make sure that food from all the seven groups has been included in the day's meals.

One favorite prize dinner is:

Roast beef or broiled liver

Carrots and peas

Baked potatoes

Bread and butter

Fruit salad

Fish, eggs, cheese, or beans may take the place of meat.

Meals to Suit the Season

If winter meals are simple and well planned, you will not have to change them much in summer. But you may wish to make three changes:

1. Eat less meat in warm weather.
2. Serve more vegetables and fruits.
3. Cook foods simply.

The amount of exercise makes more difference in the amount of food you need than the weather. The more you exercise, the more food you need. Do you eat more at camp than when you are in school? Who would need the most food: Tim's father who chops down trees in the northern woods all day, Don's father who is a mailman and walks from door to door with the mail, or David's father who sits at a desk all day?

When you change your work and play, you should change the amount of food you eat.

How to Make a Prize Meal Still Better

A good meal may be spoiled if it is eaten in a hurry. Bob and Patty always used to have to hurry through breakfast. Now they plan their time and can enjoy breakfast. They go to bed at about eight, so that they can get up at seven the next morning. They have time to wash and dress and be ready for breakfast at a quarter of eight.

They sit down at a clean, neat table, with a bowl of fruit in the center. They have half an hour to eat and laugh and talk.

"This is better," Patty said, "than always having to rush and be afraid you will be late."

John had a good plan for the noon hour. He lives a mile from the school. If he went home to lunch, he would have to eat in a hurry. So he takes his lunch to school. On sunny days he and his friends eat their lunch out of doors. It is like having a picnic every day. After lunch, he and the other children play a quiet game or take a walk.

Angelina lives only four short blocks from the school. Since her mother works during the day, Angelina has to get lunch for her little brothers and sisters. They have very simple lunches of buttered graham crackers and milk, or whole-grain cereal and milk, or hot milk toast. Angelina can get these simple meals in five minutes and have half an hour to eat. Her mother usually leaves some fruit—fresh fruit in season—or sometimes prunes or other dried fruit. When they have eaten lunch, the children wash their own bowls and spoons and put them away. It took Angelina a long time to teach the little children to help her get their lunch, but it is worth all the trouble.



Look at the picture. What makes this a pleasant meal? Note the clean dishes and table cloth, tidy table, happy people.

{Quarreling and bad manners spoil the best meal.
Which person would you rather eat with:

Sam, who gobble and talks with his mouth full?

Kate, who leans over the table and blows on her soup?

Bill, who eats neatly and speaks after he has chewed and swallowed a mouthful of food?

Buying Your Own Lunch

When you live too far from the school to go home at noon you can do three things:

Bring your lunch from home

Buy your lunch at the school's lunchroom

Buy your lunch at a store near the school

If you bring your lunch from home you can follow John's plan, which you read about on page 143.

If your school has a lunchroom, you can choose a good lunch there. This picture shows Joanne's favorite lunch.



If you have to buy your lunch at one of the little stores near the school, which of these lunches would be the best for you to buy? Give the reasons.

A hot dog and soda pop.

A half-pint bottle of milk and graham crackers.

A glass of milk and a piece of cake.

A hamburger and an apple.

An egg sandwich and an orange.

Suppose the store keeper left his food uncovered, wore a dirty apron, did not wash his hands before touching food, let flies walk over the food, washed his dishes in warm, dirty water. What would you do?

Give a Play: "Baby Sitter for a Day"

(*Scene I. In the living room. It is evening. Ten-year-old Judy is reading. Doorbell rings. Mother goes to the door and opens it.*)

MESSENGER BOY: Telegram, lady.

MOTHER: (*taking telegram*) Thank you. Is there any charge?

MESSENGER BOY: No charge. It was sent prepaid.

Mother goes back into the room, opens telegram and reads: "Grandfather had a fall; Grandmother cannot take care of him. Come if you can."

Oh, how hard for them! I must go tomorrow. Judy,

can you take care of little Bill for the day?

JUDY: Oh, he's two years old now and I've helped you feed him lots of times.

MOTHER: I'm sure you can, but it will keep you busy all day Saturday.

(*Scene II. The living room next morning. The clock strikes seven.*)

MOTHER: I'm leaving now to catch the train. Goodbye, dear. Take good care of Billy.

JUDY: I will. Don't worry about us, Mother.

Mother leaves. Billy walks in and begins playing with one of his toys. Judy reads the notes her mother has left: "For breakfast he gets fruit juice, cooked cereal, and about a cup of milk."

JUDY: I'll give him the orange juice first and heat the cereal Mother cooked last night. (*Goes to the kitchen and comes back with the orange juice.*) Here, Billy, drink your orange juice.

(*Billy smiles and drinks the juice. Judy takes empty cup and comes back with cereal and milk.*)

BILLY: No want!

JUDY: (*hands him a spoonful of cereal*) Put it in your mouth, Billy, not in your hair! (*Judy is patient with him.*) Well, the dish is empty, but there's cereal all over you! But you did drink all the milk.

(Scene III. Out of doors in the sunny garden. Judy plays with Billy. The clock strikes ten. Judy gives Billy a cup of fresh fruit juice, which he drinks. The clock strikes eleven.)

JUDY: Time for your bath, Billy. Bring ducky. He wants a bath, too. (*The clock strikes twelve.*)

JUDY: Here's your dinner and mine, too, Billy. We'll picnic together. You'll have a little finely chopped meat, baked potato and butter, green vegetable rubbed through a sieve, and apple sauce. (*Judy lets Billy try to feed himself part of the time but puts quite a few spoonfuls in his mouth for him.*) Good boy! All gone now! (*The clock strikes one.*) Time for your nap now. (*They go out. The clock strikes three. Judy leads Billy into the garden.*)

JUDY: Such a fine nap! Billy hungry? Judy will get cracker and milk. (*Goes out and brings back graham cracker and a cup of milk. For a while Judy plays ball with Billy. Then goes to kitchen to cook supper. Clock strikes six.*)

JUDY: Supper time, Billy. There will be a green vegetable soup made with milk. You can drink it from a cup. Judy will have a big bowl. Then we'll have peaches—your peaches are like soup, too!

(Scene IV. Living room; clock strikes seven.)

JUDY: Bedtime for Billy. Now I'll wash your face and hands and put you to bed.

(Soon she puts Billy in the next room. Then she plays a soft lullaby record.)

MOTHER: (coming in) Oh, Judy, did you get along all right? I got a nurse to stay with Grandpa. He had such a bad fall. I'm so glad I could go today.

JUDY: Billy did keep me busy all day. Twelve hours of baby sitting, although I didn't sit much. Did I ever have such funny table manners?

MOTHER: (laughing) Learning to eat is part of growing up. Billy's just beginning to grow up. But my girl, Judy, can take Mommy's place for a whole day. (Mother spreads out a bright new scarf.) I've got a present for you.

After giving the play, discuss these questions:

What responsibility do you have for the care of smaller children? What do you need to know about planning and cooking their food and how to feed them so they will *eat* the good food? Which of the seven food groups does the baby have first? In the first month egg yolk and fruit or tomato juice are added to the milk, and in the second or third month cooked cereals. Soon the baby is eating some food in all of the seven basic food groups.

Recipes to Make at Home or at School

Mixed vegetable sandwich:

2 tablespoons carrots, finely chopped

2 tablespoons cabbage, finely chopped

2 tablespoons spinach or other green vegetable, finely
chopped

Wash all vegetables well. Then chop or grind each vegetable. Mix the chopped vegetables together with one tablespoonful of lemon juice and one-fourth teaspoon salt. Spread on thin slices of buttered whole-wheat bread.

Carrot and raisin sandwich:

$\frac{1}{2}$ cup carrots, finely chopped

1 tablespoon seedless raisins

2 tablespoons orange juice

$\frac{1}{4}$ teaspoon salt

Wash carrots and raisins. Chop or grind carrots. Mix with the raisins, orange juice, and salt. Spread on thin slices of buttered whole-wheat bread.

Carrot and cabbage salad:

$\frac{1}{2}$ cup chopped carrots

$\frac{1}{2}$ cup chopped cabbage

Wash carrots and cabbage. Chop or grind them. Mix with salad dressing, serve on lettuce or cabbage leaf.

Salad dressing:

2 tablespoons evaporated milk

$\frac{1}{2}$ tablespoon vinegar

$\frac{1}{4}$ teaspoon salt

Mix together.

Finish Building These Meals

1. Remembering what you have learned about planning good meals, finish each of these three meals. Write them in your notebook. (Do not write in this book.)

<i>Breakfast</i>	<i>Dinner</i>	<i>Supper or Lunch</i>
a. Milk	Milk	Milk
b. Bread or cereal	Bread or cereal	Bread or cereal

2. These meals have plenty of vegetables and fruit for the day. But they do not have any foods from the other food groups. To make excellent meals for two days, add some cereal or bread; milk; egg, meat, fish, beans, or nuts; butter or margarine.

<i>Breakfast</i>	<i>Breakfast</i>
Fresh fruit	Baked apple
<i>Dinner</i>	<i>Dinner</i>
Potatoes	Potatoes
Swiss chard	Canned tomatoes Raw cabbage salad
<i>Supper</i>	<i>Supper</i>
Fruit salad	Cream of celery soup Canned peaches

Things to Think About

1. Why is it easier for animals than for people to let their appetites tell them what to eat?
2. When is just bread and milk a good meal?
3. Should your meals be different on vacation than when you go to school? If so, why?

Things to Do

1. Keep a record of all the food you eat in a day. Then answer these questions: How many prize meals have you had? (Remember a prize meal can be a very simple meal.) Did you have some food from each of the seven food groups? Did you have milk instead of tea or coffee, and fruit instead of soft drinks?
2. Make a book about food. Look in newspapers and magazines for facts about food. Cut these out and paste them in your book about food. Copy any facts from books and magazines that you cannot cut up. One page of your book might be on food facts from far-away places. It might have facts like these:

Savages in the jungle eat many ~~kinds of~~ leaves from bushes and trees. If the leaves ~~are~~ too tough, they burn them and eat the ashes, getting food value that we get from green leafy vegetables.

In China, where they did not have much milk, they used to give a mother who was going to have a baby a pig's foot pickled in vinegar. The vinegar dissolved the bone, which, as you know, is largely calcium. In this way the mother got the calcium she needed in building her baby's bones and teeth.

Some Indians in Mexico were very poor and lived on dry land. They ate many plants that we call weeds. These green weeds gave the Indians the vitamins and minerals they needed.

For another page in your book about food, you might find interesting facts about the food habits of animals.

UNIT VIII

What Happens to the Food You Eat?

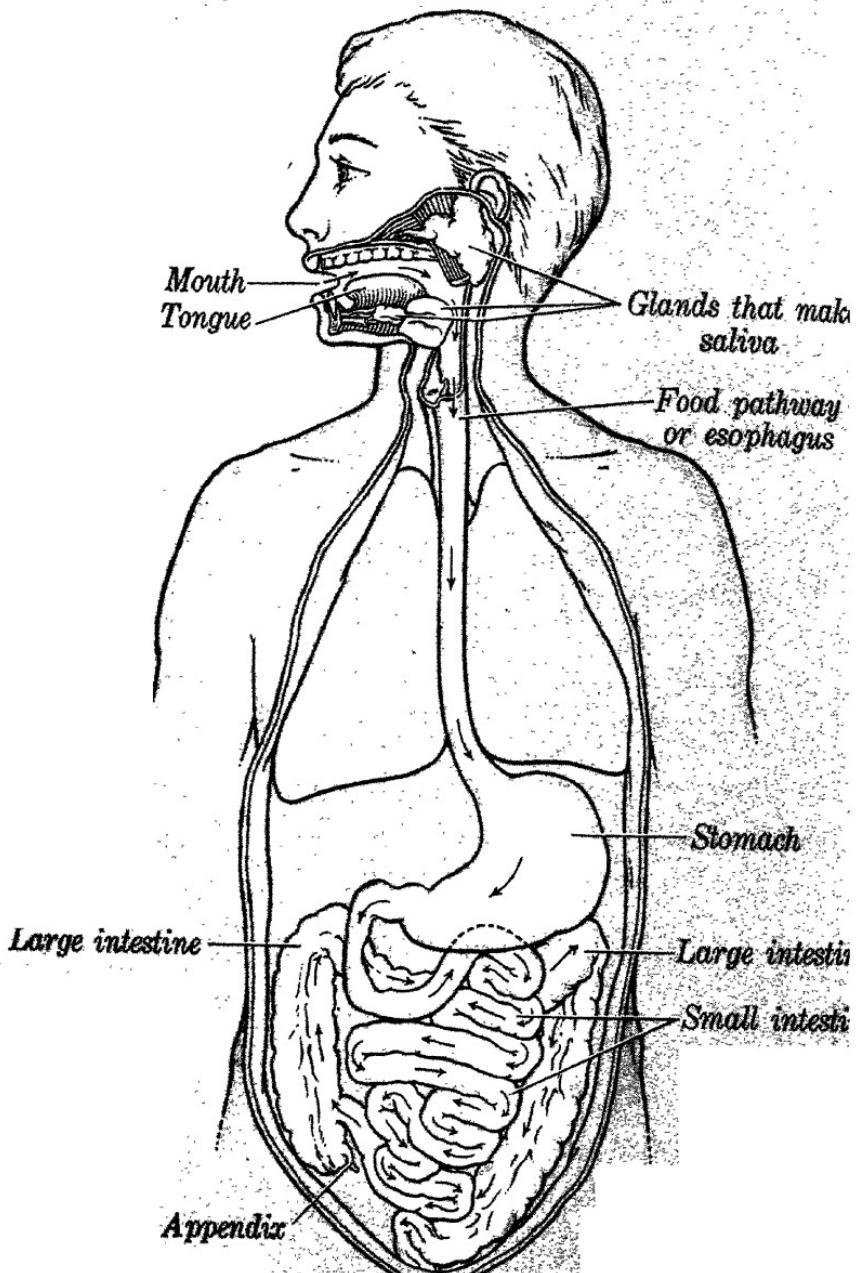
After you have planned a prize meal, cooked it carefully, and served it in a clean and pleasant way, what happens next?

You put the food into your mouth, chew it, and swallow it. You know it goes down into your stomach. Do your muscles become stronger right away? Or does the body still have a lot of work to do before it can use the food?

Just what does happen to the food you eat?

How does the food you eat keep you warm and give you power to work and play? Is there anything you can do to help your body make the best use of the food you eat?





THE DIGESTIVE SYSTEM

When you cut your finger, have you ever seen little pieces of food in the blood? Of course you haven't! What a silly question! But food is there just the same. It is in liquid form; it has been dissolved. It has also been changed in other ways. It no longer is like the food you ate.

The body can't use food just as you eat it. The food must be changed before it can be used to build strong muscles and give you fuel for your muscle engines.

The job of changing the food you eat so that it can be used by the body is called *digestion*. The parts of the body that help to digest food are called the *digestive system*. You have just been looking at a drawing of the digestive system, on p. 154. Now let us see what happens to the food as it goes through the digestive system.

If you choose the right kinds of food, eat the right amount of each, and chew it well, the food you eat gets off to a good start. If, in addition, you are happy and you rest a while after eating, you have done all that you can to aid the digestive system. Then your digestion will take care of itself.

When you know the story of digestion, you will understand why good eating habits are important. Then you will want to practice such good habits.

Digestion in the Mouth

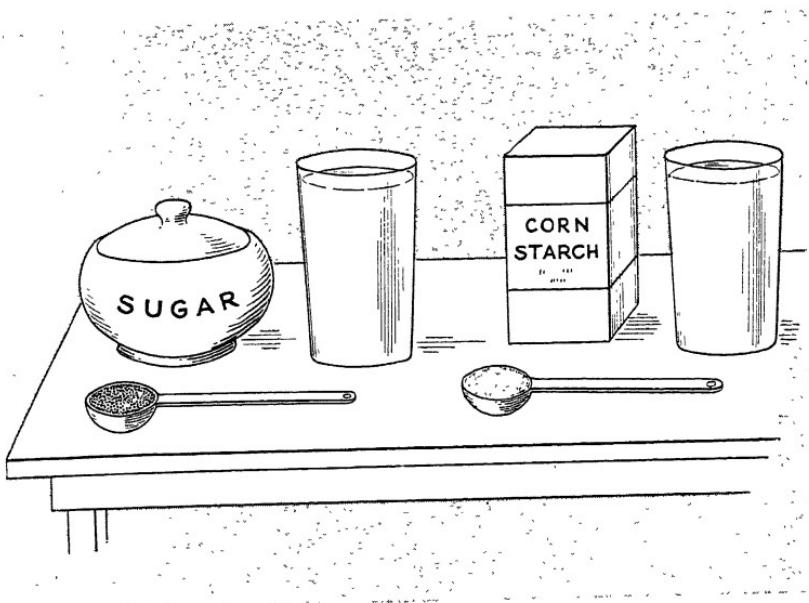
The food you eat begins its journey through the digestive system in the mouth.

Chewing breaks up the food in your mouth into small pieces. You cannot swallow big pieces of food whole like an ostrich. That would cause indigestion.

Chewing is the first step in dissolving food. If you can chew a piece of hard dry bread long enough, it becomes liquid—almost like water. Try this some time.

Some foods dissolve quickly in water. See for yourself. Put one half teaspoonful of sugar in a glass. Add water to it and shake it for about a minute. Then look at it. Do you still see the sugar? If the sugar has disappeared and the liquid is clear like water, then the sugar has dissolved in the water. Does a lump of sugar or a piece of candy dissolve quickly in the mouth? How do you know it does?

But some foods will not dissolve in water alone. Try the same experiment with one half teaspoonful of corn starch. Does starch dissolve in water? Has the starch disappeared or does it just make the water look cloudy when you shake it and then soon settle to the bottom of the glass? Does the



starch you eat in bread, macaroni, and other starchy foods dissolve in your mouth? Remember the experiment!

Because starch does not dissolve in water alone, it must be changed in some other way. Do you know in what way starch can be made to dissolve in water? Tell about it if you do. Can starch be changed to sugar? If it can, then it will dissolve quickly. Tell what you think you would need to make an experiment to prove this is correct or incorrect.

You might work out other experiments of this kind. They are interesting, and they help to make clear the changes that occur in various substances.

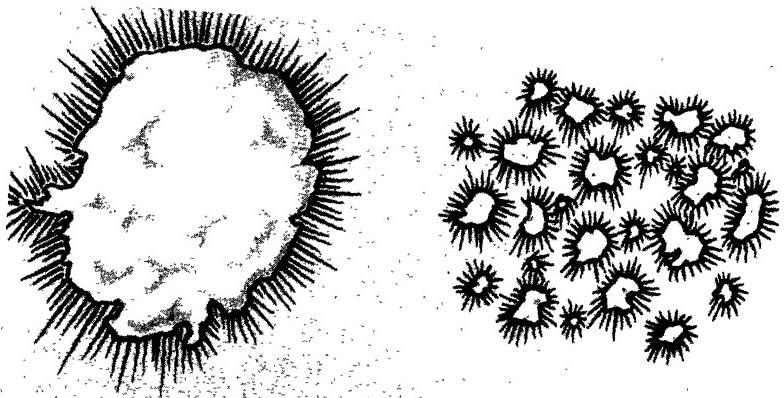
For this experiment you need three things: (1) some starch—a teaspoonful of soda cracker crumbs or some corn starch, (2) iodine to test whether you really have starch to begin with, and (3) a substance called Fehling Solution to tell whether you have sugar. You should also get a glass test tube from the science teacher.

First put the cracker crumbs with a little water in the test tube. Add a few drops of iodine. If they turn blue, you know there is starch.

Then test for sugar by boiling crackers and water with the Fehling Solution. A red color tells you that sugar is there.

Next chew a cracker very well. Now it is mixed with the saliva in your mouth. Saliva is one of your digestive juices. Spit saliva and the chewed crackers into the test tube. Now let the test tube stand for about twenty minutes. Then test again for sugar. Do you get a red color? If you do, then you know that some of the starch has been changed to sugar.

That is exactly what happens in your mouth. The saliva begins to flow when you begin to chew. Sometimes just the smell or even the thought of good food makes the saliva flow, or "makes the mouth water," as some people say.



LARGE LUMP OF
FOOD

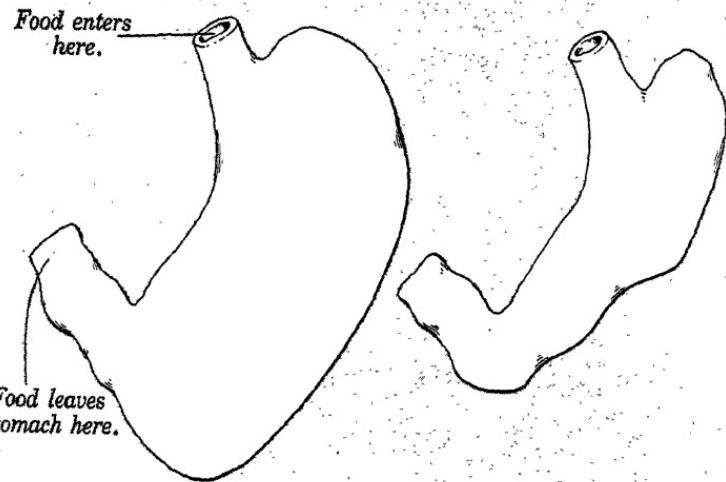
SAME LUMP BROKEN UP
BY CHEWING

In which is more of the food reached by digestive juices?

You may have noticed that the longer you chew a piece of bread the sweeter it tastes. That is because the saliva is beginning to change some of the starch to a kind of sugar. This is a special kind of sugar the body can use. It is not the same as white sugar.

Chewing brings out the flavor in food, too.

The finer the food is chewed, the more quickly saliva and other digestive juices can change it. In the picture below see how much more chance the digestive juice has to make changes in the smaller pieces of food.



THE STOMACH
WHEN FULL

THE STOMACH
WHEN EMPTY

Digestion in the Stomach

When you finish chewing food you swallow it. It goes down a tube into the stomach. This pipeline to the stomach is called the *esophagus*. You can find it in the drawing on page 154.

The stomach is a bag made of muscles. People's stomachs are of different sizes. That is why some people can eat bigger meals than others. The stomach becomes larger and changes in shape as it is filled with food. At the top of this page you will see drawings of a stomach when it is full and when it is empty. Notice the difference in size and shape.

"I feel full," you sometimes say. Of course you do after you have stuffed yourself. There is a limit to the amount your stomach can hold at one time. That is why you feel uncomfortable when you eat or drink too much. Your stomach cannot stretch any more. Then it hurts.

When the food reaches your stomach, the saliva keeps on digesting well-chewed starch food for at least half an hour. But at the same time another digestive juice is poured in from the walls of the stomach. The stomach squeezes and churns the food to mix it with this digestive juice.

When the food has become like thick cream soup, the lower end of the stomach begins to squeeze it out, a little at a time, into the small intestine.

It may take from two to six hours after you have eaten a meal for that meal to leave the stomach. Some foods leave the stomach more quickly than others. Sugar and starchy foods are the first to leave. Meat and fats stay longest in the stomach. A large amount of fat, especially fried food, slows up digestion and may make you feel uncomfortable.

Food having very little fat in it stays in the stomach a short time. Then you become hungry

before the next meal. So you see it is good to have some fat in each meal, but not too much fat or fried food.

If you eat breakfast at about eight o'clock, the stomach soon begins to empty. By twelve o'clock it may be less than half full. In four to six hours after eating a meal the stomach is usually empty. When the muscles contract when the stomach is empty you may feel what we call hunger pangs. Hunger tells us there is a real need for food. Appetite just tells us we'd like to have food.

The stomach has a lining very much like the lining of the mouth and throat. You have read that very sweet foods eaten at the beginning of a meal may irritate the lining of your stomach—that is, make it red and sore. Have you ever eaten any foods that made the lining of your mouth sore or irritated your throat? Candy, sweet syrups, pickles, pepper, spice cakes, and other very sweet, very sour, or very spicy foods sometimes irritate the lining of the stomach. Some people cannot eat bran muffins and bran bread because bran—the coarse outside coat of the whole-wheat grain—irritates the lining of their stomach. Alcoholic drinks, such as whisky, also irritate the lining of the stomach.

Digestion in the Small Intestine

The small intestine, as you can see in the drawing on page 154, is a long tube. It is about twenty feet long. Here three more digestive juices are mixed with the food. These make the last changes needed. Now the food is ready to be taken into the blood.

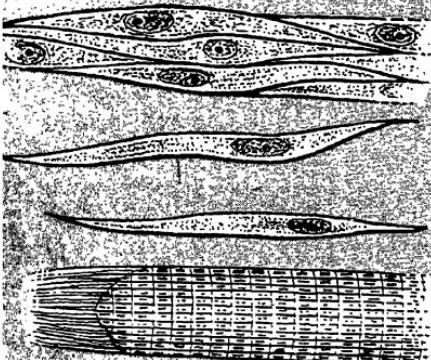
From Intestine to Body Cells

But how does this thin watery food get into the blood stream? It oozes right through the walls of the small intestine and then through the walls of the very small blood vessels. The blood then carries the food to all the cells in the body.

The story of digestion is the story of how the food we eat is dissolved and changed so that the cells of the body can use it. The blood leaves food wherever any cells are worn out or need to be built up. Much of the food it leaves as fuel for your muscle engines, which are built of cells.

What are these cells? They are the building blocks of the body. In your body are many different kinds of cells. On the next page you will see pictures of three kinds of cells.

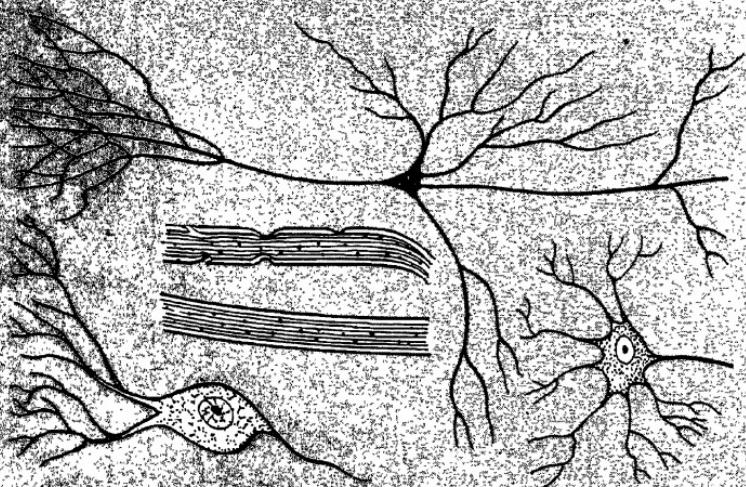
Find the muscle cells. It takes many, many muscle cells growing together to make one muscle.



Muscle cells



Bone cells



Nerve cells

THREE KINDS OF CELLS

Find the bone cells in the picture. Bone cells, of course, make our bones. Find the nerve cells. The brain and nerves are both made of nerve cells.

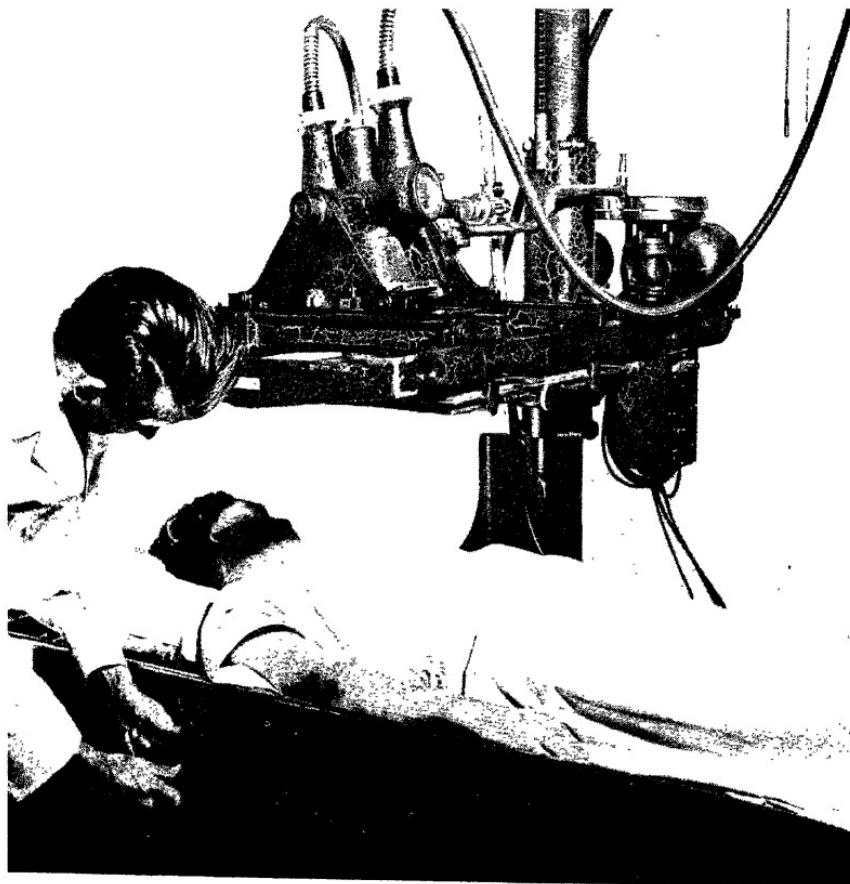
These cells are somewhat like fish in water. There is a watery liquid all around them. In this liquid is the food that has been digested. It has been brought by the blood. The cells get their food from this liquid in which they live.

Left-Overs in the Large Intestine

In this wonderful digestive system, there is always some food that cannot be changed into the kind of liquids the cells can use. Parts of fruit and vegetables, such as tough threads you find in celery, cannot be dissolved by the digestive juices. The coarse pieces of bran from the outside of the grain cannot be made liquid. There are leftover digestive juices, too, and millions of bacteria.

While the liquid food is oozing through the walls of the small intestine, the left-over food is passing from the small intestine into another part of the digestive tube.

This is called the large intestine. You can see by the picture on page 154 that the large intestine is well named. It is bigger around than the small intestine, but it is only one fourth as long.



The left-over food in the large intestine is ready to leave the body after a day or more. Doctors and scientists have learned a great deal about the way the digestive system works. They use an X-ray machine like the one above and another machine called a fluoroscope.

When the large intestine becomes full, it gives a signal to the muscles in the wall of the intestine. They contract and squeeze waste material along



1.



2.

The digestive system at work as shown by the fluoroscope.



3.



4.

toward the end of the large intestine. When the left-over food is pushed out of your body, you have a bowel movement.

Some people have a bowel movement every day or sometimes more often. Other healthy people have bowel movements only every other day. Everyone should have regular bowel movements.

If wastes stay too long in the large intestine, you may feel tired all over. You can help your bowels to move regularly by doing these things:

1. Form the habit of going to the toilet regularly each day. Don't put it off; obey the signal promptly.
2. Exercise out of doors in the sunlight. This will help to build strong muscles that help to push the waste material out of the body.
3. Eat some foods like fruits, vegetables, whole-grain cereals, and bread that increase bulk in the large intestine. Many fruits and vegetables contain mild acids which also help your bowels move regularly. Prunes, figs, and dates also help.
4. Be as cheerful and happy as possible.

The worst things to do are to worry and to get into the habit of taking laxative medicines, which make the muscles of the large intestine weak and lazy. Drinking water before breakfast is better.

Other Body Wastes

Bowel movements are only one way of getting rid of body wastes. Most of the liquid wastes are taken out of the blood by the kidneys. They collect in a bag of muscles called the bladder.

The liquid waste or urine fills the bladder. Then the bladder gives you a signal, just as the large intestine does, and you go to the toilet and urinate.

Sometimes boys and girls urinate in their sleep. The most common reason why they "wet their beds" is because they are worried or upset about something.

Through urine and sweat the body loses from three to six glasses of water a day. You can see why you need to drink a glass of water before breakfast, at recess, and at other regular times as well as when you are thirsty.

How You Can Help Digestion

If you have a good appetite, the digestive juices flow more freely and food digests better. You can "work up an appetite" by playing out of doors. But be careful not to get "too tired to eat."

Well-planned, well-chewed meals aid digestion.

Resting after eating helps digestion. "After dinner, rest a while," is a good rule. Playing ex-



Rest after eating aids digestion.

citing games, rushing around, or working hard just before or after a meal makes it hard for the digestive system to do its work.

Food digests better when people are happy. You can spoil the best-planned meal for yourself and the rest of the family by being cross or quarreling or getting angry at meal time.

We have proof of this. A famous scientist, Walter B. Cannon, took X-ray pictures of a cat's stomach at work. After eating, the contented cat began to digest its food. Everything was working smoothly. Then a dog was brought into the room. The cat became angry and excited. And what happened? The movements of the cat's stomach stopped.

Dr. Cannon found that even a cross or worried feeling stops digestive movements and the flow of digestive juices. It pays to be pleasant at meal times.

Give a Play: “Dr. Beaumont’s Experiment”

(*Scene I. A small cabin in the woods. A hunter is lying on the bed, groaning. His friend is telling Dr. Beaumont what happened.*)

FRIEND: He was out hunting. A gun was up against a log near him. It was loaded and ready to shoot.

Someone stumbled over it. It went off and you see what happened. He seems to be seriously hurt and in great pain.

DOCTOR: (*examining hunter*) It's a very bad wound. The bullet has made a big hole in his side. There's a hole right through the wall of his stomach and I can see into it—I'll do all I can but I'm afraid he won't live.

(*Scene II. A month later.*)

HUNTER: You saved my life, Doctor. I wish I could pay you for all the care you have given me.

DOCTOR: You can pay me.

HUNTER: But you know I'm a poor man, Doctor. All the money I have is not enough to pay for all you've done for me.

DOCTOR: I didn't mean money. I meant that you could let me do some interesting experiments with you. You see, the hole in your side has never closed up. I can look into your stomach through a glass. In that way I can learn more about how the stomach works.

HUNTER: (*laughing*) That seems to be a queer way to pay you, Doctor, but it's all right with me. What must I do?

DOCTOR: Fine! All you'll have to do is to come to the hospital on certain days.

(Scene III. A week later at the hospital.)

HUNTER: (*sitting up*) Have you finished with me?

DOCTOR: (*writing*) Yes. I'm just writing up the last experiment for today.

HUNTER: What did you learn?

DOCTOR: I saw how the stomach works and which foods digest most quickly. The bread and potatoes you ate first were ready to leave the stomach in an hour. But the meat stayed in the stomach almost four hours. And when you didn't chew your food well, the stomach had a harder time getting the food into liquid form. Your stomach had to do some of the work your teeth should have done.

(Scene IV. The next week at the hospital.)

HUNTER: (*very angry*) Someone stole my gun last night. If I ever catch that mean, low-down sneak, I'll teach him a lesson!

DOCTOR: (*after looking into the hunter's stomach*) Did you eat the same breakfast as usual?

HUNTER: Yes—same as usual.

DOCTOR: Well, it's still here in your stomach. It has not yet been digested. Your breakfast usually passes out of your stomach by the time you get here. I think your being so upset and angry made the difference. We'll test that again sometime.

(Scene V. *The week following.*)

DOCTOR: Oh, my! The lining of your stomach looks red and sore this morning. Have you been drinking whisky again?

HUNTER: (*ashamed and sad*) Yes, I got drunk last night. And I feel mighty bad this morning.

DOCTOR: It certainly shows in your stomach. No wonder you feel so bad.

HUNTER: Can you help me stop drinking, Doctor?

DOCTOR: You can help yourself. Easy does it. Don't worry about it. Take one day at a time. Think to yourself, "I can keep away from alcohol for this day."

Anything you can do to get along better with your family and other people will help, too. And remember, you are very important. You are helping the doctors learn more about the stomach than we ever knew before.

HUNTER: (*smiling*) Me, important! I'll tell that back home.

After the play talk about questions like these:

What did Dr. Beaumont learn from his experiments?

What have you learned about helping your stomach to do its work easily and well?

Do you agree with the doctor who said the hunter was very important? Why do you think so? Might feeling important help him to stop drinking? Why?

Have you ever heard about a club for grownups called "Alcoholics Anonymous"? People who have gotten into the habit of drinking too many alcoholic drinks and want to stop drinking join an A.A. group. They often cure themselves and never take another drink with alcohol in it.

Things to Think About

1. What is good about the advice, "Eat only when hungry"?
2. A chicken has no teeth. How does it get its food ground up into small pieces?
3. How can you "work up an appetite" without getting "too tired to eat"?
4. One fact you learned was that there are millions of bacteria in the large intestine. How is this fact connected with the rule, "Always wash your hands after going to the toilet"?
5. Mary was having some trouble in having a regular bowel movement. What do you think would be best for her to do: (a) see that she is following all the health rules given on page 168, (b) worry about not having a bowel movement, (c) take the laxative pills she heard about over the radio?

6. Tom looked at a good TV program for a short time after dinner. Ted went out into the street to play ball. Which was the better thing to do? Why?

7. Ann had broken one of her mother's dishes and had hidden the pieces. All through dinner she was thinking, "Oh, dear, what will Mother say when she finds out?" What would have been a better thing for Ann to have done? Why?

Things to Do

1. Add these words to your health dictionary: *dissolve, cells, saliva, irritate, liquid.*
2. Look at the pictures of the digestive system on page 154 and find the appendix. Ask the doctor, teacher, or nurse to tell you more about it.
3. Copy the picture of the digestive system on page 154 and then, without looking in the book, write the name of each part of the digestive tube.
4. Find something funny to tell at every meal.

UNIT IX

Let's Look Our Best

To look our best and be at our best we should keep clean, sit and stand tall, wear clean and suitable clothes, and get proper rest.

Perhaps you sometimes get angry because your mother keeps telling you to wash your hands, keep your clothes clean, and take your bath. Perhaps you think, "Oh, I don't care how I look." Is this really true? Are there some good reasons why you want to look your best and be at your best? Does this help you to make friends? Does it help you to get along better with grown-ups?





Keeping Clean

You can keep clean and neat, no matter where you live. Of course it is easier if you have plenty of warm water and soap. What makes it easier for you to be clean than it was for the pioneers?

KEEPING CLEAN IN PIONEER DAYS

Years ago the pioneers had no time or money to build bathrooms. But they lived in a clean, new world. They did not have the dust or the smoke of our towns and cities.

Charlie grew up very much like the pioneers in the farmhouse where his great-grandfather had lived. It had a large kitchen and six bedrooms. They used the kitchen as a bathroom. On Saturday afternoons Charlie's mother brought a wooden



wash tub into the kitchen. She filled the tea kettle and some big pots with water and put them on the stove to heat. Then she brought clean towels and clean underwear for all the children.

Three-year-old Betty and five-year-old Sammy took their baths first. Next Jim and Charles had turns. They finished their baths just before supper.

Being so spick and span made Saturday supper seem like a party. Mother helped to make it so by having the foods they liked best—thick vegetable soup, scrambled eggs, bacon, baked potatoes, and corn-meal pudding with cream. Often she let the children pop corn. Usually they ate it with salt and butter. As a special treat, Mother let them cook molasses until a few drops put in cold water became a hard lump. Then they poured it over the popcorn to make molasses popcorn balls.

“Those were the good old days,” Charlie said after he had grown up and moved to the city. He built a house for his family with a fine bathroom. But he often thought of his Saturday baths. He thought of how hard his mother had worked to keep the whole family clean and happy. Now he knew how much she had loved them all. “A modern house is fine,” he said, “but it will not take the place of old-fashioned love and kindness.”

KEEPING CLEAN AT CAMP

At camp Bob had only cold water and soap for keeping clean. In his tent was a bar on which to hang his wash cloth and towels, a hook for his toothbrush, and a shelf on which to put his nail brush and soap dish. On a table there was a wash basin and a large pitcher of water. Under the table was a pail for waste water. When the bugle sounded in the morning the boys went out in the sun to wash and clean their teeth.



After a tramp in the woods, an hour or two of games, or a horseback ride, Bob was hot and dusty and sweaty. He was ready for the eleven o'clock swimming hour.

After a good swim and water games, the leader called "All out!"

Bob's bare skin dried in the sun as he ran back to his tent. A good, brisk rubbing with the bath towel, after he had taken off his bathing suit, finished the job of getting dry.

With such a good "clean all over" feeling, Bob hated to put on the underwear he had worn that morning. It had been soaked with perspiration. "I know what I'll do," he said. "I'll put on the clean clothes I have in my suitcase and wash these dirty ones in the basin. They'll soon dry in the sun and I'll have clean clothes to put on after swimming tomorrow." That was quickly done. He washed the basin, too, so it would be clean when he wanted to wash his face.

Looking at his fingernails, Bob saw some dirt under them. He cleaned it out with an orange-stick in a minute. Bob heard the bugle call for dinner. In the dining hall he found himself in good company. All the other boys looked as spick and span as he did.



"There's a saying in the Navy," said one of the counselors, "'Don't be a mess—at mess.' Another saying is 'The C.O. doesn't like B.O.'"

"That's true of the Air Force, too," said another counselor, laughing. He had been an officer in the Air Force.

What the counselors said made Bob more careful than ever about the way he looked.

Before Bob went to bed that night he gave his hands a three-minute scrubbing and washed his face once more. As he was going to sleep, he thought, "I used to think only 'softies' and 'sissies'

were careful to keep themselves clean and neat, but at this camp keeping clean is the thing to do."

Have Your Own Beauty Shop

Jane looked at her older sister's pretty hands and nails. Then she looked at her own. "I wish my nails looked like yours," she said.

"It's not hard to take good care of your nails," her sister said. "I'll show you how."

And this is the way she did it:

1. She brought out her nail file, a nail brush, an orangewood stick, soap, some cotton, and a few other things.
2. She filed each of Jane's nails a little longer than the finger and rounded like the fingertip.
3. She scrubbed her nails with the nail brush.
4. She put a little cotton on one end of the orangewood stick and pushed back the skin that grows up over the nail. Doing this helps to prevent hangnails. Hangnails come when the skin around the nails becomes ragged and broken. They make that part of the finger red and sore. Picking at a hangnail makes it worse. Jane noticed that she had a hangnail. "You can cut it off with these very small scissors," said her sister, "after I have dipped them in alcohol to kill the germs."



When Jane was finished, she felt proud of her nails every time she looked at them.

Jane stopped biting her nails because it would make them look so ugly. Instead of biting them, as she used to do when she was listening to the radio, she made her nails pretty while she listened.

In cold weather Jane rubbed a little olive oil or cold cream around her nails. This kept them from breaking. When hands chap, the skin breaks open and becomes sore.

Sally had her beauty shop out of doors, for this was the way she washed her hair. She put on a bathing suit and got a sun bath at the same time. A tub of rain water had been standing in the sun and was nice and warm.

Then she brought out a wash basin, a pail, a dipper, a bottle of olive oil, two large soft towels and some liquid soap. She made the liquid soap herself by cutting up a bar of mild soap and letting it dissolve in warm water. First she washed her comb and brush, and put them in the sun to dry.

With her finger tips she rubbed a little of the olive oil on her scalp. This is good for dry scalps, not oily ones.

Then she followed the same steps as Alice did in the pictures on the next page.



The steps are: Wet the hair, rub in the liquid soap, rinse, repeat soaping and rinsing, dry with towels and warm air, brush and comb it.

Sally washed her hair at least every two weeks. If it looked or felt dirty, she washed it more often. You may not be able to wash your hair out of doors with rain water, as Sally did, but you can follow the same steps that Sally and Alice did. That means boys, too!

Why Be Clean?

Ted ran in from play, almost late for supper. He came right to the table and was going to sit down. "Don't you dare come to this table until you've washed your hands and face and combed your hair," his father told him.

This made Ted angry. It was the way his father said it that hurt most. He spoke to Ted as though he were still a little boy. Ted was growing up. He wanted to be independent. He did not want to be nagged and bossed around by any grown-ups.

If Ted had stopped to think about it, he would have seen that his father spoke to him as he did because Ted was not taking the responsibility himself. He had not learned that responsibility goes with independence.

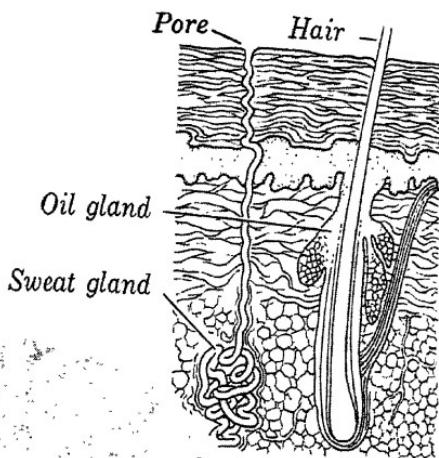
If you know the right thing to do and do it yourself, you will not have grown-ups always telling you to do this and to do that. It is easier to do the right thing if you know why.

There are many reasons for keeping clean. Did you ever think of the effect being clean has on you? Isn't it true that you like yourself better when you are clean? You feel more comfortable and important.

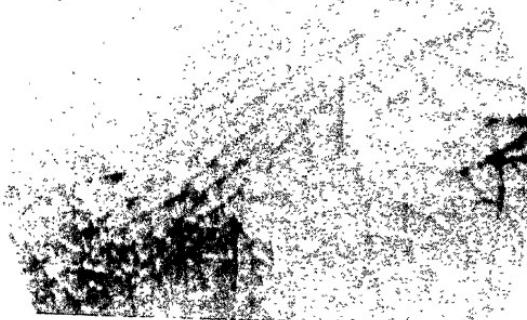
Other people like you better when you are clean. Do you know what B.O. stands for? It is the body odor from sweat, or perspiration. You can get rid of it by taking a bath and putting on clean underclothes every day.

Cleanliness protects you from bacteria that may make you sick. As you know, these bacteria can be brought into the mouth or nose by dirty hands.

An experiment was made to find out whether bacteria die more quickly on a clean skin or on a dirty skin. A certain kind of bacteria were put on the clean hands of a number of workmen. The same number of these bacteria were put on the dirty hands of other workmen. This is what happened: After ten minutes on the dirty hands there were the same number of bacteria. But on the clean hands, only a few bacteria were left.



✓ OF HAND
✓ UNDER A
MAGNIFYING
GLASS



Your Skin and Cleanliness

If you look at your skin under a magnifying glass, you will see many little wrinkles or creases. They make it possible for the skin to stretch as it does when you close your hand. These creases also catch dirt. That is one reason why you need to wash your hands often.

You will also see little pits out of which tiny hairs grow. Oil oozes out of these pits and helps to keep the skin soft. But the oil also catches and holds dirt.

The openings of the oil glands sometimes become stopped up with dirt. That causes black-heads. To get rid of the dirt caught in the oil you need soap. Do you know how soap works? Soapy water mixes with the oil and loosens the dirt. Then the dirt is carried away in the soapy water.

Through a strong magnifying glass you may see very small openings all over the skin. These are called *pores*. The pores are the openings of the little pipes that lead down through the layers of skin to the sweat glands. When you get very warm, sweat, or perspiration, comes out of the pores. If the perspiration dries on the skin it makes an unpleasant body odor.

Sometimes certain bacteria get into the pores and cause pimples and boils. Scratching or finger-ing them spreads the bacteria to other parts of the skin where they may find a place to enter.

You have learned how a warm soapy bath cleans the skin. But do you know why some people take cool or cold baths? A cool bath helps the skin get used to sudden changes in temperature. It trains the tiny blood vessels in the skin to get smaller when the air is cold and to get larger when the air is warm.

Tell about other ways in which baths help you.

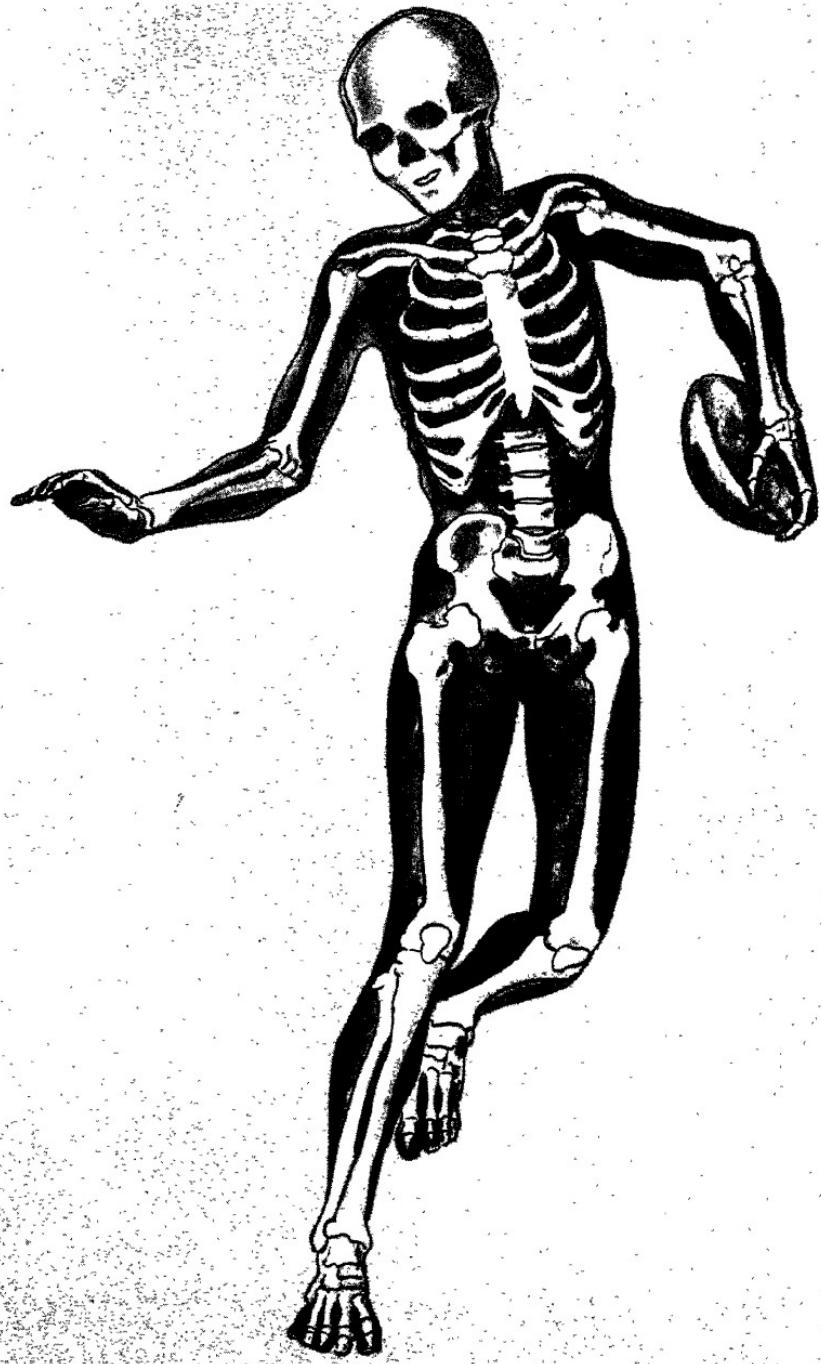
Of course cleanliness is only one thing that makes a healthy skin. You can tell the outdoor boy or girl from the indoor person. Anything that helps to make a person healthy will help to make a healthy, pretty skin.

Sitting and Standing Tall

“Sit up!” “Stand up straight.” How often do parents and teachers say this to you? Is posture important? Can you have good posture just by remembering to sit and stand up straight? What do bones have to do with good posture?

Good posture is the most comfortable way to sit, stand, walk, and run.

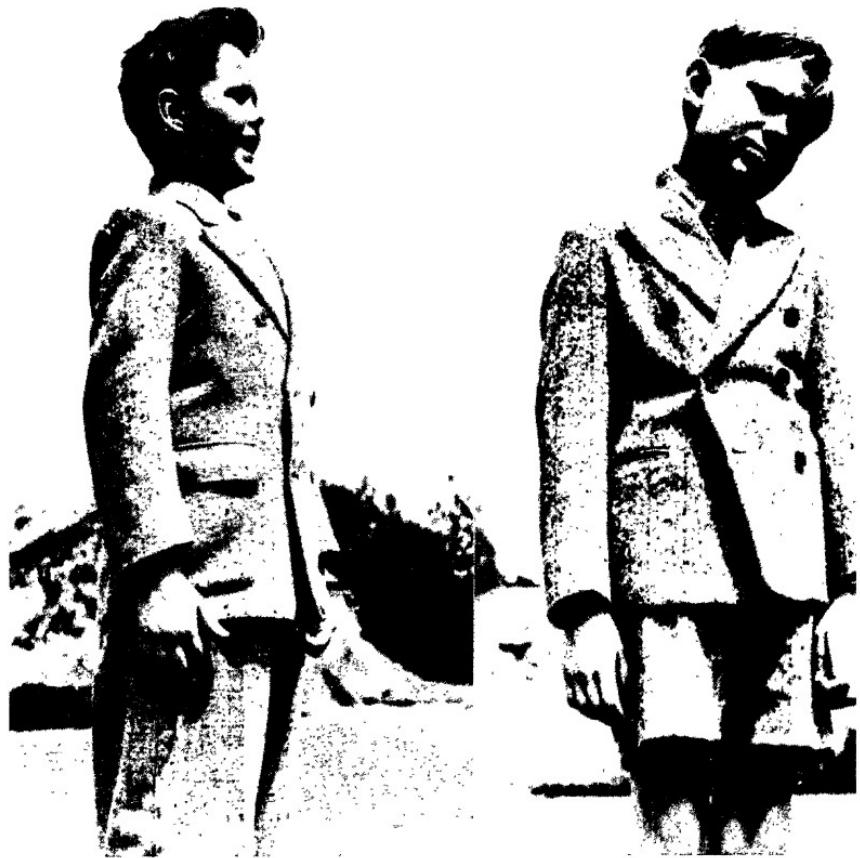




Good posture is more comfortable than poor posture. When you are sitting, standing, and walking properly, the bones easily carry the weight of the body. But when your head drops forward, your shoulders droop, and your abdomen slumps, your muscles pull and tug to keep the body in position. This extra work makes the muscles tired. You feel tired all over, too. It's hard work to sit and stand poorly!

The backbone is especially important for good posture. It holds you up straight and tall. Without it you couldn't stand up if you tried.

The bones of the feet are important, too. Tired feet may make a tired body. Have you ever thought that your feet carry the weight of your whole body? In walking a mile, step by step, they may have to lift a weight equal to 250 tons. No single bone could carry such a load. But fortunately the feet are built so that all the weight of the body does not come on any one bone. The weight of each foot is divided between the heel and the short bones that form the toes. The weight is also divided between the two feet. You can see that the bones must be strong to carry all this weight and to help you move about. What ways have you learned to build good bones?



Causes of Poor Posture

"Jerry," said the principal one day, "we are giving badges to the boys who have been chosen for the safety patrol. Come and get your badge."

"Joe," said the principal another day, "come into my office. We want to find out why you've been doing such poor work this year."

How do you think Jerry and Joe felt? In their pictures above, what difference do you see in the way they stand and the way they look?

These are some of the reasons for poor posture.

1. Feeling discouraged and unhappy.
2. Being tired because you have stayed up too late.
3. Being sick. Bacteria can steal away your pep.
4. Not having the right kind and amount of food.
5. Not being able to see well because of poor eyes or poor light.
6. Not having chairs and desks that fit you. Sometimes the chair is too high. Then you can find a box or a footstool to put your feet on. Sometimes the chair is too low. Then you can put a firm cushion on the seat so that your elbows will be even with the top of your desk. A desk or table should be just high enough so that you can rest your forearms on it without raising your shoulders. When your arms hang down, your elbows should be even with the top of your desk.
7. Having poorly fitted shoes. Although a salesman should always sell you shoes that fit, you had better check for yourself: Are the toes square or rounded? Is the shoe about an inch longer than your foot? Is it just as wide as your feet? Use an X-ray machine, if possible, to look at the bones in your foot in any new pair of shoes.



Tests of Good Posture

Look at the picture above. How do you think Mary Anne feels? How is she sitting on her bicycle? Show how you think she would stand and walk.

There are many ways to find out whether you have good posture. One is to watch yourself when you are sitting, standing, or walking.

How are you sitting right now? Are you sitting slumped down in your seat, sitting on your backbone? Or are you sitting on the muscle pads that make such good cushions? Are you rounding your

back? Or are you bending down from the waist at the hip joint? Is your head hung over the desk or table? Or is your head held up? Is your book lying on the desk? Or are you holding your book up about fourteen inches from your eyes? Are your feet dangling? Or are both your heels and toes on the floor? These are tests of good sitting posture. Sit up right now. Don't you feel better? You look much better, too.

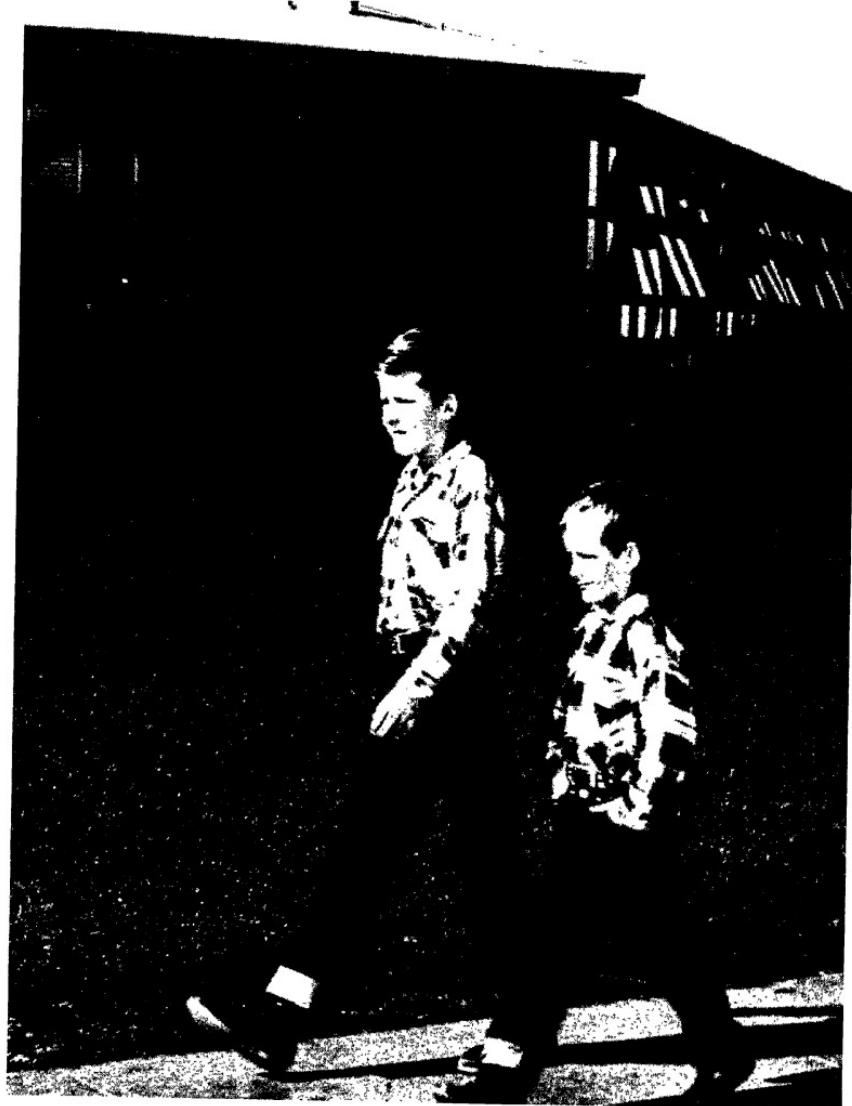
How well do you stand? When you go by a long mirror or a store window, look at the way you are standing and walking. Do you like your present posture? What is wrong with it? How can you improve it?

You can take this test with a friend. It is called "the line and sinker test." Tie a sinker or any small piece of metal on the end of a string. Hold the other end of the string in line with your friend's ear, but a little way from his shoulder. If your friend is standing well, the line will drop past the center of his neck, shoulders and waist, the front part of his knees, and the middle of his foot. Your teacher can help you give this test.

The shadow test of posture is even more fun. Hang up a sheet with a light in back of it. Stand between the sheet and the light. The shadow that

falls on the sheet shows how you stand. There are machines that take these shadow pictures.

Pictures taken with a camera are even better. They show how you walk and play. Point out the ways in which these boys are walking well.



Do you want to learn how to walk faster, too? Then, first, you should point your toes straight ahead. If you measure your footprints, you will see how you save an inch or two at each step by toeing straight ahead instead of toeing out. Second, take a little longer step. Third, swing your foot ahead a little faster at each step.

The next time you go on a hike, notice the way you walk. This is good form in walking: The toes point straight ahead. The heel touches the ground first, the whole foot grasps the ground, and the toes give a push at the end of a step. The right arm swings forward with the left foot and the left arm swings forward with the right foot. The head and chest are held comfortably high, and the abdomen is flat. See whether the boys in the picture on page 201 are doing all these things.

Many people enjoy walking. It is a fine feeling to go swinging along a path in the woods or park. The way you walk often shows the way you feel.

You can test good form in running, too. In running, the toes touch the ground first. They push off before the heels ever reach the ground. Running on the toes and the balls of the feet saves the body many jars and jolts. To run fast you must have strong leg muscles as well as good form.

Get the Good Posture Habit

If you have strong bones and muscles, and are not tired or discouraged, then poor posture may be just a bad habit. You can snap out of it.

“Pull your chest out of your waist.”

“Pull your head up out of your shoulders.” These are orders that are sometimes given to soldiers. Try to follow them. They do give you a lift.

It is much easier to keep good posture than to correct poor posture. Months of sitting and standing badly can bend the bones, just as a young tree is bent when it cannot grow tall.

Poor posture may also make changes in the muscles. When the head droops forward, certain muscles in the front of the neck become shorter. As these muscles shorten they pull the bones with them, and that pulls the head down. Other muscles in the back of the neck become longer. They become weaker. Instead of snapping back into position like a new rubber band, they may lie loose and flabby like an old, worn-out one. They are not strong enough to pull the head up and hold it high. It’s the same way with the muscles of the shoulders and the abdomen. The more you slump, the harder it is not to slump. So it’s best to train your muscles by having good posture day by day.

That does not mean that you will be thinking of yourself all the time. No, indeed! Once in a while you need to check to be sure that your desk and chair, or a big fat pillow or a bed that sags in the middle, or your shoes and clothing, or your ways of sitting, standing, and walking, are not getting your bones and muscles into bad habits.

Correcting Poor Posture

It is hard to teach the muscles new tricks. If you have poor posture, you should ask your physical-education or "gym" teacher what to do. You will have to teach some muscles to work harder and other muscles to relax and rest.

The exercises to improve posture are different for each person. You should learn the exercises especially good for you. Some of the exercises you may do to music. That makes them more fun.

The special exercises will not do much good unless you practice them every day. It is like training lions and seals in the circus. The trainers do not skip a day's training or let the animals make mistakes. If you are as good as a lion trainer, your muscles will learn new tricks. Doctors say that at your age almost all kinds of faulty posture can be corrected.

The French way of saying, "How do you do?" is "How do you carry yourself?" How do *you* carry yourself? A person who carries himself well looks alert and alive, and he has a good feeling about himself. Can you tell when a person is angry, or shy, or unhappy by the way he sits and walks?

Wearing Clean and Suitable Clothes

"Fine feathers do not make fine birds," nor do fine clothes make fine boys and girls. Clean bodies, good posture, and good health are the most important.

But people often judge you by the clothes you wear. If a boy has spots on his suit people may say, "He's careless." If a girl wears her party dress to school, other children may laugh at her because she doesn't know how to dress. If a girl goes out on a cold day without her warm coat, people may say, "She can't be very bright." If a boy goes out in a storm without rubbers or a raincoat, people wonder where his wits are. It is not fair to say things like that, but that's the way some people are.

Our skin is a wonderful protection. But we need clothing, too. Clothing that fits us and fits the weather helps us to be comfortable and to look our best.



CLOTHING FOR WINTER SPORTS

"Betty, here's a letter for you," her father said one morning. Betty opened it and read it quickly.

"Oh, Daddy," she said excitedly, "Ellen has asked Joan and me to spend a week with her. Her home is in the mountains and there will be all kinds of winter sports."

"No wonder you're excited," said her father. "But whether you have a good time or not depends a good deal on . . ."

"Good manners?" asked Joan.

"Keeping well?" guessed Betty.

"Yes, both of those," said their father, laughing. "But having a good time also depends on having the right kind of clothes. Suppose you go skiing. Skiing feels like flying and you'll never learn if you have to wear a thick, heavy coat. Or if you are coasting down hills on your sleds, you will feel cold and miserable if you are not dressed warmly enough. You'll have to protect your ears, feet, and fingers from frostbite, too. You had better make a little study of clothing so that you will choose the best kind of clothes to take with you."

"That's just what we'll do," said Betty.

They studied about clothing and set up rules for choosing it. Then they packed their suitcases.

They learned the big trick in keeping warm. It is to keep the heat given off by the body from escaping too quickly. If the heat from the body can be held like an air blanket close to the skin, you will feel warm.

Some kinds of clothing catch and hold the warm air better than others. The girls used a magnifying glass to look at woolen, cotton, and linen clothing. They saw that woolen cloth has many tiny, hairy air pockets in it. These hold the warm air next to the body. So choose woolens for cold weather.

Cotton and linen are smoother. Air passes easily through the holes in them. That is why cotton and linen sheets feel cool and why people in warm countries wear cotton and linen clothes. Cotton and linen have a use in cold weather, too. They are good as underwear because they take up perspiration and are easy to wash.

These are the rules Betty and Joan made for choosing out-of-door, cold-weather clothing:

1. Have lightweight, soft woolen or cotton underwear next to the skin.
2. Have two or three layers of lightweight, loosely woven woolen clothing, such as a light woolen dress or suit and a snowsuit. These woolen clothes will catch and hold the body heat.

3. Have clothes that fit close around wrists and ankles but are not tight anywhere. Test a new suit by taking a deep breath in it to be sure it is not tight.

4. Have waterproof shoes to keep the feet dry. Choose shoes the same shape as the feet and about an inch longer. They should have low, wide heels and heavy soles to keep the feet from getting hurt by ice and rocks.

Now, if you were packing your suitcases for some days of winter sports, what clothing would you put in them? Here is what Joan and Betty put into each of their suitcases:

Three sets of easily washed, loosely woven underwear—one woolen set for outdoors, and two cotton sets for indoors.

Two cotton or nylon blouses.

Two cotton or nylon slips.

A lightweight woolen sweater.

A lightweight woolen skirt.

A very warm, but lightweight, woolen playsuit that would fit close around the wrists and ankles and had a woolen hood to cover the ears.

Woolen socks and waterproof shoes.

Leather mittens lined with wool.



They chose the cotton or nylon blouses because they knew it would be warm in the house. When the temperature in the house fell below 68° F., they would put on a sweater. They knew it is just as bad to wear too much clothing as too little.

Outdoors they were comfortable and happy in their gay woolen playsuits. They stood tall because they felt happy and sure of themselves. Their good posture helped them to learn to ski quickly. Of course, they had many ups and downs in learning. Ellen's brother did, too. But they always got up smiling.

CLOTHING FOR SUMMER CAMP

Peter was going away to summer camp and wanted to be sure to take the right clothes. He did not want to look different from the other boys or to have clothes that spoiled his fun in any way. The camp gave him a little book that told about the kind of clothing he should bring. He read the book carefully.

"Now I know what kinds of clothing I should take to camp," he said. "My underwear must be soft, light in weight, and easily washed. I'd hate to have to spend much time washing my underwear. And I want it loose enough so I can run and jump and climb without feeling it pull on me."

He was careful to buy cotton socks about a half inch longer than his feet but not so large that they would wrinkle and make blisters or thick, hard spots of skin called calluses.

For hikes up the mountain, Peter took woolen stockings to keep his legs and feet warm when it got cold. On the top of the mountain the air would be fresh and cold. Sometimes there would be cold, damp clouds all around him.

Yes, he must take the right kind of clothes for all the different kinds of weather and sports.

CLOTHING FOR RAINY DAYS

Have you ever heard someone say, "That fellow doesn't know enough to come in out of the rain?" Perhaps the fellow is really smart, but he gives people the wrong idea about himself.

It is fun to go out in the rain when we are dressed for it. Water rolls off good rainy-day clothes as it does off a duck's back.

These are good clothes for rainy days:

1. A raincoat to keep your clothes from getting wet. For warm weather the cellophane or plastic raincoats, capes, and hoods are the most comfortable. For cold, stormy days raincoats lined with woolen cloth are fine and warm. Some of these coats can be worn inside out. On clear days you wear the woolen material on the outside.
2. Rubbers or galoshes to keep your feet dry.
3. A rain hat or umbrella.

Waterproof clothes keep the body heat in. That is what makes raincoats so hot. They also keep perspiration from evaporating. That makes your underwear and socks damp. What can you do about this?

Look at the rainy-day clothes the boy and girl on the next page are wearing. In what ways are they good? In what ways are they poor?



Getting That Alert Look

“Asleep at the switch.” A switch, you know, is the place where trains are guided onto the right tracks. What might happen if a trainman went to sleep at the switch? Do you sometimes feel sleepy when you ought to feel wide awake?

WHAT SLEEP DOES FOR YOU

You cannot be at your best when you are not getting enough sleep. The body builds itself up while you rest. During sleep it builds and repairs worn-out cells and stores up power for the next day’s work and play. A person who has lost sleep often says, “I feel all worn out.” And that is just what has happened. The person’s body has become worn out because of lack of sleep.

Sleep helps to keep you good-natured. Being good-natured helps you to make and keep friends. In an experiment to find out facts about sleep, a number of boys and girls stayed up long past their regular bed time. What were the results of this loss of sleep? After a few days these children became very cross and hard to live with. The experiment had to be stopped. After the children had gone back to their regular early bedtime, they became good natured, as they usually were.

Other experiments show that having enough sleep helps to keep you well. A person is more likely to catch cold when he is very tired. Rest in bed is the best way to cure a cold and other diseases.

Accidents also happen more often to people who are tired. Why is this so?

Have you noticed how much longer it takes you to do your school work when you are tired? What's the best thing to do about this?

Sleep rests the mind and body. Do you know anyone who stays up late every night going to the movies, or watching television or just fooling around? How does he look? How does he stand and walk? Does he have as much pep and is he as much fun as when he gets about ten hours of sleep each night?

MARY JANE'S BEDTIME

"I shouldn't mind going to bed at eight o'clock if there were not so many interesting things I want to do," Mary Jane said one night as the clock struck eight.

"I wish I could go to bed this minute," said her mother, "but I have a dozen things to do before I can go to bed."

"You're lucky you can go to bed early," said Mary Jane's older sister. "I wish I could. I'm so sleepy, but I have to study for a test tomorrow."

As Mary Jane put away the book she was reading, she thought, "Perhaps I am lucky to be able to go to bed at eight o'clock."

She said good night to everyone and went to her own small bedroom. The bed had a firm mattress and warm light covers, but she should have a much smaller soft pillow.

As soon as Mary Jane was ready for bed, she opened the window and turned out the light, and slipped under the covers.



Give a Play: "Why Polly Was Popular"

(*Jerry and Judy are talking on the playground.*)

JUDY: I wonder why Polly is so often chosen as a leader.

JERRY: It isn't because she has oodles of money and lives in a fine house. Her father's poor and she lives in a little old house on the other side of town. JUDY: And she doesn't have classy clothes, either. She is always clean and neat, but she hardly ever has a new dress or new shoes.

JERRY: Let's watch her today and see if we can find out why everyone likes her. (*They go nearer to where Polly is playing.*)

JUDY: Polly's playing first base in the ball game today. She certainly is full of pep. There's nothing sleepy about her!

JERRY: And she's having fun. She looks as though there was nothing in the world she'd rather do.

JUDY: She surely plays the game well! Did you see that high ball she just caught?

JERRY: She must practice catching with her big brother.

(*A player has just run to first base. Polly caught the ball thrown to her and there is an argument about it.*)

POLLY: (*to the player*) It was a close shave. Let's say you were safe, since no one really knows.

JUDY: She's a good sport, isn't she? She could have been mad about that.

JERRY: Did you notice how much better Patty played today? Polly has been helping her learn to catch and bat.

JUDY: Polly helps a lot of people. That's another reason why she's tops with everyone.

JERRY: No wonder Polly is so well liked! She's full of pep and fun. She's a good player. She doesn't think of herself all the time. She's kind and helpful.

After the play is given, discuss these questions:
Why did the other boys and girls like to play with Polly?

Could any boy or girl do the kinds of things Polly did? Why do you think so?

If one of your clubs needed a president, who would be your first choice? Why?

What kind of boy or girl would you like to eat your lunch with?

What are some of the things you can do to be and look alert and to win friends?

Pete was sloppy and just naturally slow. What could the other boys and girls do to help him?

Riddles

I help you stand tall.

I help you walk.

To work well, I need energy from food.

If you do not use me, I lose my strength.

What am I?

We make it possible for you to bend your arm.

Without us, you would walk like a wooden soldier.

Some of us work like the hinge on a door.

What are we?

A Matching Game

Match each word with its meaning. (Write the words and their correct meanings in your health notebook. Do not write in this book.)

- | | |
|-------------|--|
| 1. posture | the bone framework of the body. |
| 2. skull | a chain of bones with pads between them. |
| 3. skeleton | the place where two bones meet and can move. |
| 4. backbone | the part of the body just below the chest; it contains the stomach and intestines. |
| 5. calcium | the bony box that covers and protects the brain. |
| 6. joint | the way in which the body is held in sitting, standing, and walking. |
| 7. abdomen | a substance needed in building bones and teeth. |

What Would You Do?

1. Jim had no horse, but he wanted a pair of cowboy boots to wear to school. He went to buy them. The salesman said, "These boots have high heels and pointed toes. They are made for riding a horse, not walking."

"I want them anyway," said Jim. And he tried them on.

"Just step over to the X-ray machine and look at your feet in these boots," said the salesman.

Jim looked through the machine down at his feet.

"Why, I can see all the bones of my feet," he said. "The toes are crowded to a point and I can't move them a bit."

Now, what would you do if you were Jim?

2. Don always came to school clean. He had a fresh scrubbed look. One of the boys said to him, "Only sissies bother about keeping clean." What would you say?

3. In Tom's school there was no place for the children to wash their hands before eating or after going to the toilet. What would you do about this?

Things to Do

1. When you buy your next pair of shoes take plenty of time to choose comfortable shoes that fit your feet.

2. Collect pictures for an exhibit showing good form in sitting, standing, walking, and playing games.

3. Ask someone to take snapshots of you when you don't know he is taking your picture. Study the snapshots to see how you can improve your posture.

4. Try guessing how persons feel by the way they stand and walk and the way they look.

UNIT X

Our Head Is a Control Tower

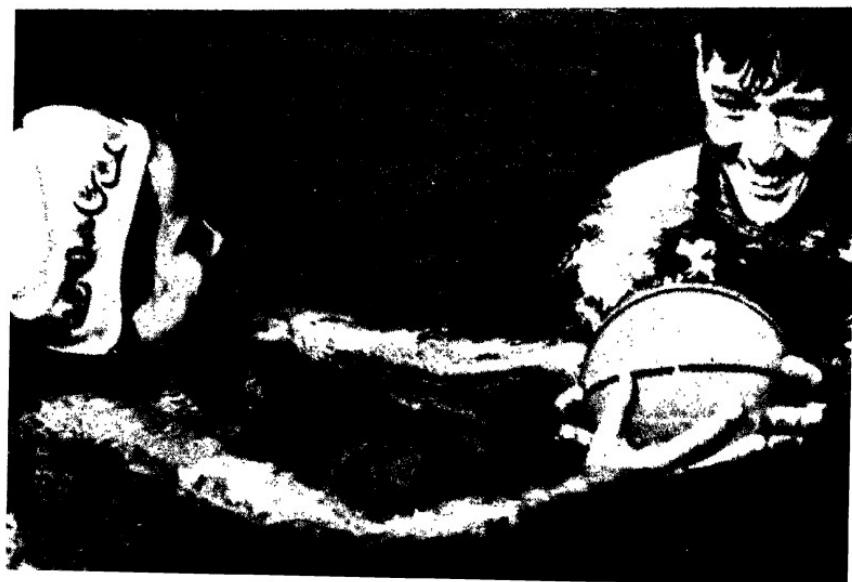
The boy and girl in the picture below have some wonderful things inside their heads.

They have a motion picture camera. If they lost it, they could not buy another for a million dollars.

They have a telephone system that warns them of danger and can bring to them all the beautiful sounds in the world.

They have an air-conditioning system to warm and clean the air before it goes to the lungs.

They have a machine that not only grinds up food, but also begins to digest it.





Your Useful Eyes

Judy did not want to wear her new glasses. But when she put them on she saw a bright, new world.

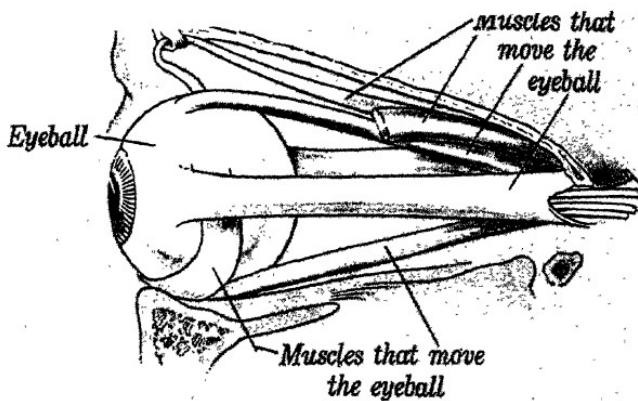
"Why, Mother," she cried, "I can see the bluebird in the apple tree and the snow on the mountain!"

Judy wore her glasses to school the next day. A few days later she said to her mother, "It's a funny thing, Mother. Three other children are wearing their glasses now. They wouldn't wear them before. They said that I seemed to be having such a good time with my glasses that they wanted to see more, too. Now they don't leave their glasses in their desk or coat pocket any more. Four of us have a club of our own. We call ourselves the 'See Mores.' "

Jerry did not want to wear his glasses either. He said they were a nuisance. Then he saw how he frowned when he read, and how red his eyelids looked. When he wore glasses for reading and writing he looked better and felt better.

People have been wearing glasses for a long time—before Columbus discovered America. They used to be called spectacles.

Today we have persons with special training who can examine our eyes and tell us whether we



need glasses or not. An oculist is a doctor who has studied about the eyes and body as a whole. An optometrist, though he isn't a doctor, is trained to detect diseases of the eye, to test eyes, to fit glasses to them, and to tell you how to take care of them. An optician makes the glasses that you need.

Glasses are something that you should never buy ready made; they should always be made to order for you. Glasses that do not fit your eyes are worse than none at all. Glasses that get bent or dirty also may do more harm than good.

THE EYE AND HOW IT WORKS

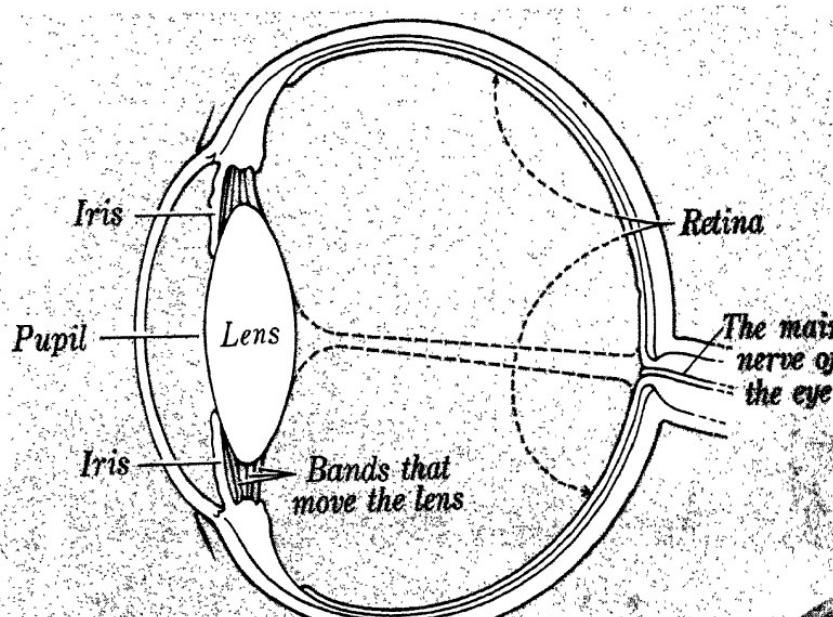
Look at a friend's eyes. What do you see? Have him look up and down. What part of his eyes moves? Have him look right and left. What part of his eyes moves? Could you tell that the white part of your eyes is a round ball? Look at the picture above.

You have six muscles that move the eyeball. Some of these muscles turn the eyeball up and down; some move it from side to side. See how quickly these muscles obey you. You know how muscles work—by contracting and relaxing.

Now look in the front part of your eyeballs. You see a colored part called the iris. What color is your iris? It is like a curtain or shutter that can let in much or little light. Look at the drawing above. Find the iris. Find other parts of the eye as you learn about them.

The small, dark round hole in the center is the pupil of the eye. It may look to you like a black spot on your eyeball. But it isn't; it is really an opening to let light into the eye.

Parts of the eye



If there is an opening into the inside of the eye-ball, what prevents dirt and other things from getting in? The cornea does this. It covers the eye-ball, but you can see through it as if it were glass. It is called "the window of the eye." It keeps harmful things from going through the pupil.

You can find out for yourself how the pupil works. Stay in a dark room for a few minutes. Carry a small mirror with you. Then look at your pupils in the mirror as you quickly go from the dark to a bright room. What happens? Does the pupil stay the same size? You have to be quick to see the pupil grow smaller when you come into the light. Your pupils also become larger when you are afraid. Tiny muscles move these round shutters and make the pupils larger or smaller.

It is best not to go too quickly from a dark room to a brightly lighted one. You should be careful not to look at glaring lights. And if you go into the bright sunlight on the beach or in the snow, you can make your eyes more comfortable by wearing special colored glasses.

Just behind the pupil is the lens. You can see the lens in the picture on page 227. In many ways it is like the lens of a camera. It is clear, like glass, but it is not hard. It can become thicker or thinner.

Muscles move the lens, too. All of these muscles become tired just as muscles in your arms and legs do. If the light is too dim when you are reading, certain eye muscles have to pull hard to make the print clear. When they get tired from pulling, your eyes begin to hurt.

Rays of light go through the cornea, the pupil, and the lens and fall on the lining at the back of the eyeball. This is called the retina. It is the film for our motion-picture camera. Everything we look at is pictured on the retina. Then something more wonderful than television happens.

The likeness of the dog we are looking at is flashed on the retina and carried by the optic nerve to the brain. Then we think, "I see a dog." You have a wonderful motion-picture machine with a mind of its own!

WAYS TO TAKE CARE OF YOUR EYES

When on a moving train or bus. Why do your eyes get tired when you try to read on a moving train? The motion of the train makes your hands unsteady, and so the distance between the book and your eyes is changing all the time. The muscles must keep working to make the picture clear, and have no time to rest.

Rest them often by closing your eyes, or looking across the aisle or far away at the sky and country.

Automobiles and buses are usually more bumpy than a train. We should not try to read in them.

When reading at home or at school. You know the correct way to hold a book—it should be held up about fourteen inches from the eyes, with the light on the book, not on the eyes. There are two times when you should stop reading: when the light grows dim, and when you are sleepy.

When washing your face. Using a towel that has been used by someone who has an eye disease may infect your eyes with the same disease. One kind of germ causes pink eye, which is very catching. You can get it by using a handkerchief, towel, or other article used by the person who has pink eye.

Sties, too, are caused by germs. These germs may be carried to your eyelid on fingers, a handkerchief, a towel, or other things. If you have a sty on one eye, how can you keep it from spreading to your other eye? Sties come more frequently when your eyes are strained or tired.

When you play. How would you prevent accidents to your own eyes and other people's eyes from fireworks, BB guns, scissors, knives, sticks, and other objects?



When you get something in the eye. Why should you never rub the eye? Rubbing will only push the bit of dirt or cinder deeper into the eyeball or eyelid, or scratch the eyeball. Tears are a natural eyewash. Give them a chance first.

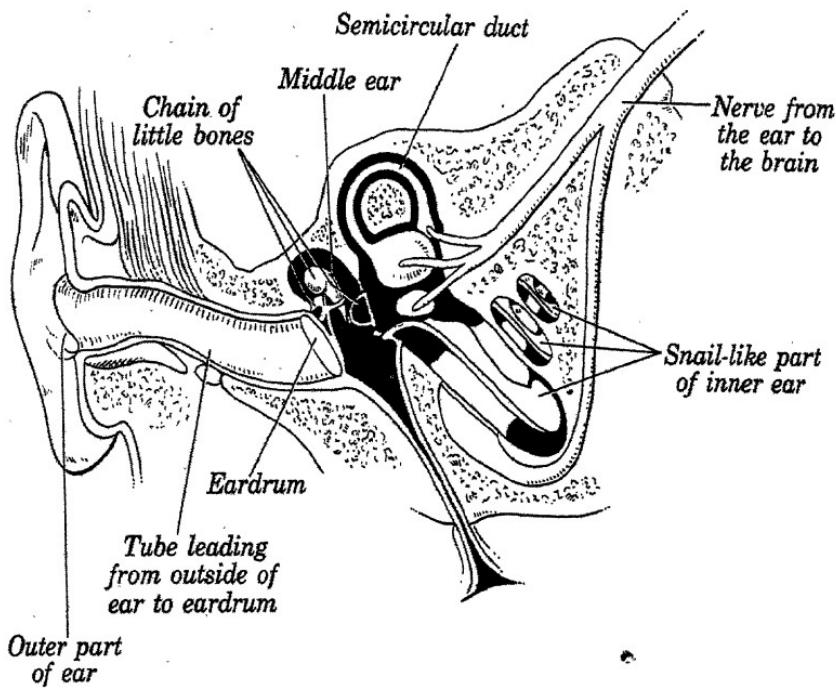
When tears do not wash the speck out, boric acid eyewash or warm boiled water, squirted on the eyeball with a medicine dropper, may wash out the dirt or cinder. A nurse can usually take it out as shown in the picture above.

A sharp bit of dirt should be taken out as soon as possible. The longer it is left in the eye, the harder it is to get out and the more harm it can do to the eyeball.

If you have an illness like the measles. You should take special care of your eyes. Let the sunlight and fresh air into your room, but don't let the sun shine in your eyes. You can have your bed moved so you do not face the window.

After you have been ill and get up for the first time your leg muscles feel weak. It's the same with your eye muscles. So do not try to use them for reading and other close work until you are strong again.





Your Ears and Their Care

Think over all that you remember about the ears. Do you remember the two uses of the eardrum—to catch sounds and to keep out germs? On the picture above, show how germs may get into the inner ear in two ways—through a broken eardrum and by creeping along the pathway that leads from the throat to the ear. Once inside the ear, germs have everything they need to grow—water, warmth, and food.

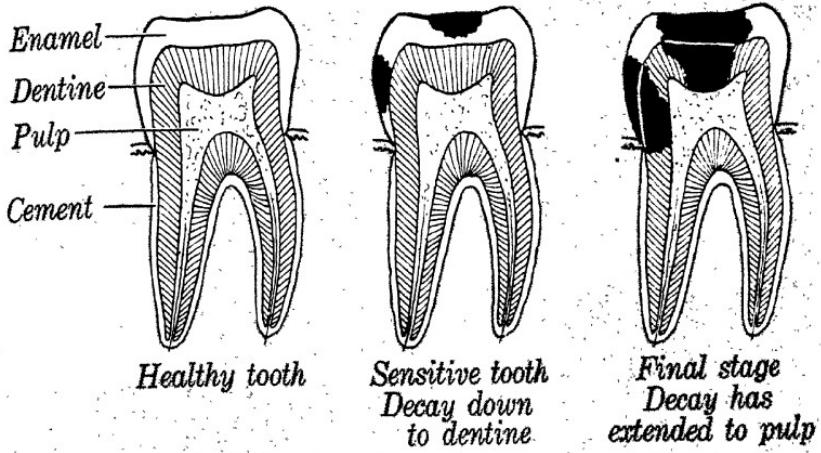
If you are taking care of small children, how can you teach them to avoid sharp objects or learn to handle things safely? With two-year-olds it is best to keep dangerous objects out of their reach. Show older children how to use them safely.

When you have an earache. See the doctor promptly. "Running" ears or earache usually mean that the ear is infected. Germs are at work there. That yellowish matter you sometimes see in a cut gathers inside the ear. It presses against the eardrum and causes the pain of an earache. If nothing is done about it, the pus may press so hard that it breaks the eardrum. This may leave a large ragged hole in the eardrum which may never fully heal. Or the eardrum may become stiff and thick. That may cause a loss of hearing.

Nose and Throat

In what ways are the nose and throat like an air-conditioning system? How does the nose warm and clean the air you breathe before it goes into your lungs?

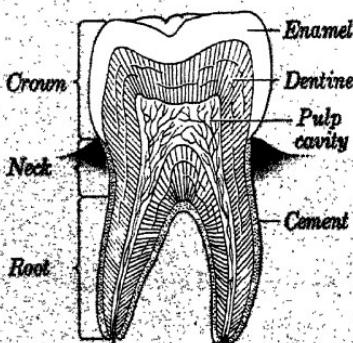
Do you have colds? Review what you already know about colds. Keep up to date on the latest facts about colds by reading the health news in newspapers and magazines.



HELPING YOUR TEETH LAST A LIFETIME

The picture above shows how a tooth decays. When a part of the hard, shiny enamel is chipped off or eaten into by acids in the mouth, decay begins. When the decay reaches the dentine, it quickly reaches the center of the tooth—the pulp where the nerve is.

To understand how to take care of your teeth, you need to know how they are built. Try to remember all you know about the parts of the teeth and the kinds of material of which they are built.



A SIXTH-YEAR MOLAR.
FIND THE THREE MAIN
PARTS AND THE FOUR
KINDS OF MATERIAL
OF WHICH IT IS
BUILT.

You can see why you should be careful not to chip the enamel by using your teeth as nut crackers, or as scissors to cut threads.

You can see why raw vegetables and fruit are good for the teeth. They supply some of the minerals from which your teeth are being built. They give exercise to the teeth and gums because they have to be chewed well. And they help to keep the teeth clean because they are full of fibers that scrub the teeth somewhat as a toothbrush does. A piece of apple or celery at the end of a meal leaves the teeth feeling fine and clean.



Give a Play: "Three Things"

(*Jane and Jack are visiting their Aunt Bess.*)

JANE: Aunt Bess, we are having such a grand time visiting you.

JACK: Yes, we've seen and done something new every day. We've seen television at last. We've seen the inside of a big plane. And, Jane, wasn't that a wonderful night when Aunt Bess took us to see the stars through that big telescope?

JANE: Yes, we've seen hundreds of new things. And do you know the ones I liked best? Aunt Bess has them right in her own house.

JACK: Her little camera that takes such beautiful pictures?

JANE: Yes, that's one. And the Indian drum that makes such a fine sound when you beat it. And you'll laugh at the last one—the food grinder. You put any kind of food in one end and it comes out at the other end, all ground up.

AUNT BESS: (*smiling*) Why, you have those things in your head. We all do.

JANE: (*puzzled*) Camera—drum—food grinder—in my head?

JACK: Tell us about them, Aunt Bess. I think I can guess what the food grinder is. Is it our teeth?

AUNT BESS: Yes, your mouth and teeth are a wonderful food grinder. When you chew your food well, it not only grinds food but begins to digest it.

JANE: And our food grinder is easier to clean than your metal one.

AUNT BESS: That's right. But you should clean your teeth right after you have finished using them, just as I do my food grinder.

JACK: (*puzzled*) But, Aunt Bess, where do I have drums in my head?

AUNT BESS: You each have two tiny drums that are inside your ears. They shake—or vibrate—when sound waves reach them. That moves a chain of tiny bones close to the ear drums. Nerves carry these sound messages to the brain. The brain makes a record of the sound. You know voices you hear over the telephone because your brain has recorded those voices.

JANE: How exciting and interesting!

JACK: What wonderful little drums they are! We must be careful never to do anything to hurt or break them.

JANE: Now I think I know what my color camera is—my eyes.

JACK: Why, of course! My brain is full of colored pictures which my eyes have taken. I can shut my

eyes now and see last year's beautiful Christmas tree, or Sport when he was such a cute puppy.

AUNT BESS: Yes, your eyes are the most wonderful camera in the world. They keep themselves clean. They have lenses that flatten when you look at something far off, and thicken when you look at something near. They have a screen which catches all the pictures that shine through the lenses. Nerves send these pictures to the brain to be kept always.

JANE: How careful we should be of these wonderful cameras of ours!

AUNT BESS: And of other people's, too, when you are playing or working.

JANE: Just think, Aunt Bess, I am taking the three most wonderful things home with me—the food grinder, drums, and color camera.

JACK: And so am I. To keep as long as I live!

After the play discuss such questions as:

In what ways are your food grinder, drums, and color cameras more wonderful than any you can buy?

What are the most important things that you can do to keep them in good working order all your life?

Riddles to Guess

I am part of the eye.

I am somewhat like the film in a camera.

I am connected with the brain by an important nerve.

What am I?

You begin to lose me when you are about six years old.

I should have good care all the time I am with you.

I am pushed out as bigger ones grow in.

What am I?

A blow or a sound too close may break me.

I catch sounds and pass them on.

I am thin but quite strong.

When I am broken you may not hear very well.

What am I?

Things to Do

1. Copy the drawings on pages 227 and 233. Then, without looking at the book, see if you can write the names on each of the main parts of the eyes and ears.
2. Write in your notebook or be ready to tell in class what you think these boys and girls should do:
 - (a) Bob has "running" ear and an earache.
 - (b) Betty sleeps with her mouth open and breathes through her mouth a good deal during the day.
 - (c) Jane is all dressed for a party. She does not feel well and her face is very hot. Her nose has begun to run, and she is sneezing often.





Group discussion is important in making plans and solving problems.

UNIT XI

Let's Be Good Citizens

In the early days of our country, people lived far apart. Now we live much closer together, in cities, towns, and on farms. There are many more chances to share and to work together.

The world is made up of many different kinds of people. It is good that they are different because each one helps others by doing the things he does best.

Good citizenship begins with ourselves. Good, kind, healthy persons make the best citizens. So the first step in becoming a good citizen is to straighten out your own feelings and habits.





Many organizations stress good citizenship.

A Good Citizen Has Good Feelings Toward Himself and Others

Here are some ways to have good, happy feelings:

Enjoy the beauty in the world, wherever you may live—the blue sky, sunshine, trees, and animals; the oceans and mountains; even tall buildings against city skies.

Find many things to like about yourself. You may not have as much energy as Bill, but you do not have to be on the go all the time. You may not be as pretty as Joan, but you have your good points. You may think you are too tall or too short, or too thin or too fat, but wouldn't it be a dull world if we all looked alike? There was Mabel.

Mabel grew up fast. She had always been a little larger than other children of her age. They liked to play with her, for she was quick and had good ideas. In the fifth grade she began to grow extra fast. She became taller than most of the boys and girls in her class. She also began to look more like a woman than a little girl. This made her think a lot about herself. She began to stoop when she walked so that she wouldn't look so tall. She would have been a great deal happier and a better citizen if:

. . . she had said, "I'm a fast grower. But some of the others will catch up to me later and then I'll not feel so different."

. . . she had thought of the advantages of being tall.

. . . she had thought more about her good points.

. . . she had played games in which her height would have been an advantage.

. . . she had been glad she was becoming more like a woman, and looked forward to the time when she would have children and a home of her own.

Bring your worried and angry feelings out in the open. It helps to talk them over with someone you like and someone who likes you. It even helps to write about your feelings or draw pictures about the situation. It helps to find some interesting things to do. It helps most to help others—to do something kind and thoughtful for them.

Find something you can learn to do well. There's nothing like being able to say, "when it comes to baseball"—or something else—"I'm pretty good."

Mary, Anna, Helen, John, Steve, and Bill all worried because they thought their parents did not love them or because a brother or sister was

the favorite child, or for some other reason. Which of these boys and girls do you think handled the situation best? Why do you think so?

Mary always stayed with her mother, trying to get her attention. When she was left alone, she often cried. She became very jealous when either of her parents gave anything to her sister or praised her sister. But she tried not to let anyone know how she felt.

Anna acted quite differently. She tried hard to be best in everything. She won her parents' praise by getting high marks and being a leader. But the other boys and girls began to dislike her for being first in everything.

Helen went off by herself. She did not try to get anyone's attention or love. She built a kind of wall around herself and would not let anyone in. No one knew what Helen was thinking or feeling.

John tried to hurt people. He seemed to say, "If nobody loves me, I'll get even with them." He often got into fights. Sometimes he hurt little children and animals. Sometimes he hurt himself. He seemed to want to hurt his parents by growing up to be a mean boy.

Steve did not act his age. It was as though he

wanted to be a baby again. When he couldn't have his own way he got angry; sometimes he kicked and screamed like a three-year-old child.

Bill at times felt the same way as Mary, Anne, Helen, and Steve did. But he did not act the way they did. He found a hobby. It was making toy boats. He gave some of them to little children who had few toys. Soon his father became interested in Bill's hobby and bought him some fine new tools. They worked together making all sorts of things of wood. Bill got along well with friends of his own age. He had good ideas and worked hard, helping the other boys and girls to work out their ideas. When something made him angry, he "worked off" the angry feeling. He felt he was doing a pretty good job of growing up. He thought of all the things he had made, his good friends, and how well he was getting along with his father now. "I guess I'm pretty good, after all," he said.

Yes, Bill was "pretty good." And he was building a good foundation for good citizenship.

GOOD CITIZENS AT HOME

The happiest family is one that talks things over and shares the work and responsibilities. Its members have a lot of fun together.



What are the good points about this kitchen?

Marie is a helper. Every day she makes her own bed and her three-year-old sister's bed. The beds are airing while she is eating her breakfast.

Every Saturday she cleans the bedroom. She uses a vacuum cleaner on the rugs, an oil mop on the bare floor, and an oiled cloth to dust the furniture.

All week she keeps her room neat by putting things in their place as she finishes using them.

One day, when Marie was in the kitchen watching her mother cook, her mother said, "You're the best little housekeeper in the world. And you're fine at teaching Betty to be a good helper, too."

Bob did a number of outdoor chores each day, while his mother did the housework inside.

But one summer day, Bob saw his mother sitting out in the yard. She looked very tired. "I'll surprise her," he said to himself.

He began to sweep the rooms indoors as he had seen his mother do. By using pieces of damp newspaper he kept the dust from flying up in the air. By using an oiled dust cloth he gathered in all the dust on the furniture.

Just as he finished, his mother came in. How surprised and pleased she was! Bob thought it was worth all the work to make his mother so happy.

Jack and Jill were twins. They liked to work and play together. Part of their work every day was to help Mother with the dinner.

Jill set the table and put some flowers or fruit in the center. "Every dinner is a kind of family party," she said.

After dinner, Jack and Jill scraped the dishes and put them in this order to wash—glasses, silver, china, pots and pans. They washed them in hot sudsy water or used a soapless cleaner in hot water. They rinsed the glasses and silver with clean, hot water and dried them with a clean towel. They poured boiling water over the china and let it dry by itself.



Then they cleaned the pots and pans. Then they put everything in its place in a covered cupboard.

Jim protects the family from flies. He helps keep the manure on the farm from piling up. He kills all the flies he sees early in the spring by swatting them or by spraying. He keeps screen doors and screens in the windows closed.

When Betty takes care of her baby sister, she is very careful not to let anyone with a cold come near her. When her friend Jean had a cold, Betty said: "Oh, Jean, please don't come near the baby. She catches cold so easily." Was Betty right? Why?



A good citizen helps to keep the whole family well. What other ways of doing this do you know?

GOOD CITIZENS AT SCHOOL

There are many ways of being good citizens at school. Arthur shares his books and games, but not his germs, with others. He stays home at the first sign of catching a disease.

Donald helps keep the drinking fountain, the wash basin, and the toilet he has used clean.

In what other ways can you be a good citizen in school, in your neighborhood, and in your state and country? What can you do now to make a healthier America? A better world?

Take Stock of Yourself

To take stock of your health and safety habits answer each of these questions at the beginning of the year and again at the end of the year. If it is something you do *always*, write an A in the first column after the question. If it is something you do *often*, write an O. If it is something you do *seldom*, write an S, and if you *never* do it, write an N. Do this now at the beginning of the school year and pick out the health habits you decide to work on especially. Then at the end of the school year, rate yourself again to see the progress you have made.

SAFETY HABITS AND FIRST AID

Begin- ning of school year	End of school year

1. Do you cross streets only at corners?
2. Do you obey traffic lights and signs?
3. Do you remember not to run into the street from behind a parked car?
4. Do you play in the safe places?
5. If you ride in a bus do you:
keep your head and hands inside?
wait for the bus to stop before getting off?
look out for passing cars as you get off?
6. Do you prevent falls in the home by putting your things away and by picking up or moving in place anything that might cause a fall?
7. Do you help smaller children to play safely?
8. Can you give first aid?

FOOD HABITS

1. Do you have whole-grain or enriched bread or cereals every day?
2. Do you eat a green leafy or yellow vegetable every day?
3. Do you have citrus fruit or raw cabbage or salad greens every day?
4. Do you have "the basic seven" daily?

	<i>Begin- ning of school year</i>	<i>End of school year</i>
<ol style="list-style-type: none"> 5. Do you make sure your food is clean? 6. Do you sit and stand tall? 7. Do you eat neatly and make the meal pleasant for other persons? 8. Do you chew your food well? 9. Do you play quiet games or rest a while after eating? 10. Do you have regular natural bowel movements? 11. If you need a mid-morning or mid-afternoon lunch, do you eat fruit or crackers and milk? 12. Do you stop eating before you "feel too full"? 13. When you have money to spend, do you buy fruit or something to play with instead of candy and soft drinks? 14. Do you wash fruit and raw vegetables . very carefully before eating them? 15. Do you say "No" to tea and coffee? 16. Do you drink at least four glasses of clean, safe water a day? 		

HABITS OF CLEANLINESS

1. Do you keep your own room clean and your things picked up?
2. Do you help with the housework?

Begin- ning of school year	End of school year
-------------------------------------	--------------------------

3. Do you always wash your hands before eating?
4. Do you always wash your hands after going to the toilet?
5. Do you take a warm bath daily?

CLOTHING AND POSTURE

1. Do you take off your raincoat and rubbers as soon as you come in?
2. Do you put on clean, well-aired underwear every day?
3. Do you wear stockings and shoes that fit the shape of your feet?
4. Do you start for school with your shoes shined, your clothing neat and clean, and a clean handkerchief in your pocket?
5. Do you sit in chairs and at desks or tables that are the right size and height for you?
6. Do you get about ten hours of sleep every night?
7. Do you go to bed at a regular time?

CARE OF EYES, EARS, TEETH, NOSE, AND THROAT

1. Do you read with the light shining on your book, not in your eyes?

<i>Begin-</i> <i>ning of</i> <i>school</i>	<i>End of</i> <i>school</i> <i>year</i>
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2. Do you hold the book up twelve or fourteen inches from the eyes?
3. When reading or writing or doing other close work, do you rest your eyes often by looking into the distance?
4. Do you use your own towel and wash-cloth?
5. If your eyes or ears hurt, do you go to the doctor promptly?
6. Do you brush your teeth properly right after every meal?
7. Do you go to the dentist every six months?
8. Do you have a quart of milk a day?
9. Do you get your share of sunlight?
10. Do you remember not to bite hard candy or threads?
11. Do you stay home the first three days of a cold, or longer if you have fever?

HABITS OF THINKING AND FEELING

1. If you are worried about something, do you talk it over with an older person?
2. If you are angry, do you find useful ways to "work it off"?

Glossary

This glossary explains the hard words or expressions as they are used in this book.

Key to Sounds

ā as in āte	ē as in moth'ēr	ou as in out
â as in câre	î as in ice	û as in üse
ă as in ăm	ĭ as in ill	û as in ū-nite'
ä as in ärm	ō as in öld	û as in bûrn
à as in àsk	ô as in ôr'der	ü as in üp
à as in so'fâ	õ as in ödd	ü as in cir'cüs
ē as in ēve	oi as in oil	th as in bathe
è as in è-vent'	oo as in food	zh like the s in
ě as in ěnd	ǒ as in foot	treas'ure

abdomen (ăb-dō'mĕn). The part of the body just below the chest; the part which contains the stomach and bowels.

air conditioning (âr kōn-dish'ūn-ĕng). A way of treating air so that it is made clean. It is also made to be the right temperature and to contain the right amount of moisture.

albumin (ăl-bü'mĭn). The protein in the white of an egg and in many other animal and plant tissues and juices.

allergic (ă-lûr'jîk). Unusually sensitive to a certain substance. Hay fever is the result of being allergic to certain pollens and dusts.

antivenin (ănt'ĕ-vĕn'ĕn). A medicine that can be used to cure a person made sick by the bite of a poisonous snake.

appendix (ă-pĕn'diks). The small sac-like growth at the beginning of the large intestine.

appetite (ăp'ĕ-tit). A desire for food and drink.

artery (är'tĕr-ĕ). A blood vessel or tube which carries the blood from the heart to all parts of the body.

bacteria (băk-tĕr'ē-ă). Very tiny living plants, some of which cause disease. One kind causes milk to sour.

bandage (băñ'dij). A strip of cloth used in dressing and binding up a wound or injured leg or arm.

bladder (blăd'ĕr). A soft, thin bag in which liquid (urine) collects in the body.

blister (blís'tĕr). A little baglike place under the skin filled with watery matter.

bruise (brōōz). An injury to the body, as by a blow, which does not break the skin.

calcium (kăl'si-ūm). A substance needed in building bones and teeth. We get most of the calcium we need from milk.

capillary (kăp'ī-lĕr'ī). One of the many fine tubes joining the arteries and veins.

cells (sĕlz). The tiny living parts of which the body is built.

citrus (sít'rūs). Referring to a type of fruit like lemon, orange, grapefruit, and lime.

contract (kön-trăkt'). To shorten or draw together.

cornea (kôr'nă-ă). The transparent outside coat of the eyeball.

corpuscle (kôr'pūs'-l). Very small cell floating in the blood. Some corpuscles are red and some are white.

cripple (kríp'l). A person who cannot use his body properly because of an injury.

digestion (dĭ-jĕs'chŭn). The act of digesting food.

digestive system (dĭ-jĕs'tiv sĭs'tĕm). The mouth, stomach, intestines, and glands of the body which help to digest food.

dissolve (dĭ-zôlv'). To melt in water or some other liquid, as sugar is dissolved in hot cocoa.

electric (ĕ-lĕk'trik). Having to do with electricity, a form of energy which can give certain metals the power to pull together or push apart from one another, and which can produce light and heat.

energy (ĕn'ĕr-jĕ). Strength; power.

esophagus (ĕ-sōf'ă-gŭs). Passage for food from mouth to stomach.

faint (fānt). A condition in which one lies as if dead and does not know what is going on around him.

Fehling solution (fă'lĭng sō-lū'shŭn). A solution used by scientists to detect the presence of sugar.

fluoroscope (flōō'ō-rō-skōp). An instrument for observing or exhibiting fluorescence or radiation.

fortified (fôr'ti-fid). Strengthened.

frostbite (frōst'bīt'). The partial freezing of any part of the body.

gauze (gōz). A very thin, light cloth which is easily seen through; used to make bandages.

hangnail (hāng'nāl'). A piece of cuticle hanging loose at the base of a fingernail. It sometimes is painful.

intelligent (in-tēl'i-jēnt). Having or showing understanding and the ability to learn and know.

intestine (in-tēs'tīn). The bowels; a tubelike structure into which the food passes after it has been in the stomach.

iodine (īō-dīn). A food substance needed by the body and found in sea foods, such as fish, clams, and oysters. *See also tincture of iodine.*

iris (ī'rīs). The colored part of the eye. We call a person blue-eyed if he has a blue iris.

irritate (īr'i-tāt). To stir up and make unpleasant; to annoy.

joint (joint). The place at which two things are joined, as bones. The elbow is a joint.

laxative (lāk'sā-tīv). Any mild medicine given to cause a bowel movement; same as cathartic and physic, but milder.

lens (lēnz). A clear, oval part of the eye, curved outward on both sides. Also glass part of camera, microscope, or eyeglasses.

ligament (līg'ā-mēnt). A band of strong tissue which connects bones or holds parts of the body in place.

magnifying glass (māg'ni-fī'ing glās). A glass that makes things seen through it look larger than they are.

margarine (mär'jā-rēn). A substitute for butter made from vegetable oils and animal fats.

medicine (mēd'i-sin). A substance, drug, or means used to cure disease or improve health.

mineral (mīn'ē-rāl). A substance such as calcium or iron which is found in foods and needed by the body.

muscle (mūs'l). A fleshy part of the body that makes it possible to move.

nerves (nûrvz). Threadlike tissues which connect the brain and the spinal cord (nerve tissue within the spine) with all other parts of the body.

oculist (ök'ü-lëst). A doctor trained to treat the eyes and to fit them with glasses if necessary.

ointment (oint'mënt). A substance made from oil or fat, often containing medicine, used on the skin to heal or to make soft and white.

optician (öp-tish'än). A person who makes and sells eyeglasses and other things for the eyes.

optometrist (öp-töm'ë-trëst). One who is skilled in testing eyesight and fitting eyes with eyeglasses; not a doctor.

oxygen (ök'si-jëñ). A gas which is part of the air we breathe. It has no color, odor, or taste, but we could not live without it.

pasteurized (päs'tér-izd). Heated hot enough and long enough to kill many germs. The plan was thought of by a Frenchman, Louis Pasteur.

perspiration (pür'spi-rā'shün). Sweat.

phosphorus (fös'fô-rüs). A mineral present in milk and other foods that helps to build bones and teeth.

pinkeye (pingk'ë). A very catching disease which makes the eye a pinkish color and often causes it to swell and shut.

plasma (pläz'mä). Blood without the corpuscles.

poisonous (poi'z'n-üs). Containing poison and very harmful to life.

pore (pör). Small opening of the skin. Sweat, or perspiration comes through the pores.

pulse (püls). The beating of the heart. It can be felt in the wrist and in other parts of the body.

retina (rët'i-nä). The lining at the back of the eyeball. It is on the retina that things we look at are pictured.

rheumatic fever (rōō-măt'ik fë'ver). A disease, chiefly in young people, characterized by fever and pain in the joints.

saliva (sà-lì'và). The watery fluid in the mouth. It is a digestive juice which begins the digestion of starchy foods.

scurvy (skûr'vë). A disease caused by lack of vegetables and fruit. It causes weakness and swollen and bleeding gums.

skeleton (skël'ë-tün). All the bones of a human being or an animal. The skeleton is the framework of the body.

spectacles (spék'tä-k'lz). A pair of glasses to help a person's sight or to protect his eyes.

- splint** (splînt). A thin strip of wood or other stiff material for holding a broken bone in place.
- splinter** (splin'têr). A thin, sharp piece of wood, bone, or glass.
- sprain** (sprân). Injury to a joint caused by a sudden twist.
- sterile** (stér'il). Free of germs.
- sterilize** (stér'i-liz). To make free of germs.
- stethoscope** (stéth'ô-skôp). An instrument which enables a doctor to hear sounds within the body.
- sties** (stîz). Sore, red swellings on the edge of eyelids. One of them is a sty.
- stimulant** (stîm'ü-lânt). Something that excites or makes you feel wide awake. Coffee and tea are stimulants.
- tendon** (tēn'dûn). A tough, strong band or cord that joins a muscle to a bone.
- unconscious** (ün-kôn'shûs). Not aware or not meant.
- urine** (ürîn). The fluid that is secreted by the kidneys, goes to the bladder, and is then discharged from the body.
- vein** (vân). One of the blood vessels that carry blood back to the heart from all parts of the body.
- venom** (vén'üm). The poison that certain animals have to protect themselves. They can get this poison into people by biting or stinging. Rattlesnake venom can kill a person.
- vitamin** (vî'tâ-min'). A certain substance necessary for health and growth. Vitamins are called by letters—vitamin *A, B, C, D, G, K*, and so on. They are found in many foods.

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